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247

JULY 31, 1893.

# CATALOGUE

OF THE

# Exhibits

OF THE

# State of Pennsylvania

AND OF

# Pennsylvanians

AT THE WORLD'S . . . .  
COLUMBIAN EXPOSITION

Prepared Under the Direction of A. B. Farquhar,  
Executive Commissioner.

ILLUSTRATED.

P38-7

247 OF 247



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MAP OF THE  
BUILDINGS AND GROUNDS  
OF THE  
**Worlds Columbian Exposition**  
AT  
JACKSON PARK & MIDWAY PLACENCE  
CHICAGO, ILL. U.S.A. 1893

100 2 000 P.  
1:2500  
Issued by the  
Department of Survey and Printed  
H. Helmle  
Chief of Printing Office  
1868

### State Sites and Buildings

- | №  | Имя       | №  | Имя       |
|----|-----------|----|-----------|
| 1  | Александр | 11 | Александр |
| 2  | Александр | 12 | Александр |
| 3  | Александр | 13 | Александр |
| 4  | Александр | 14 | Александр |
| 5  | Александр | 15 | Александр |
| 6  | Александр | 16 | Александр |
| 7  | Александр | 17 | Александр |
| 8  | Александр | 18 | Александр |
| 9  | Александр | 19 | Александр |
| 10 | Александр | 20 | Александр |

1	Forest Bileon	2	Goodenichts
2	Ausso	3	Komodo
3	Stemich	4	Jacky
4	Sudra	5	Joang
5	Stemich	6	Austria
6	Steth	7	Castro
7	Steth	8	France
8	Steth	9	Japan
9	Steth	10	Canada

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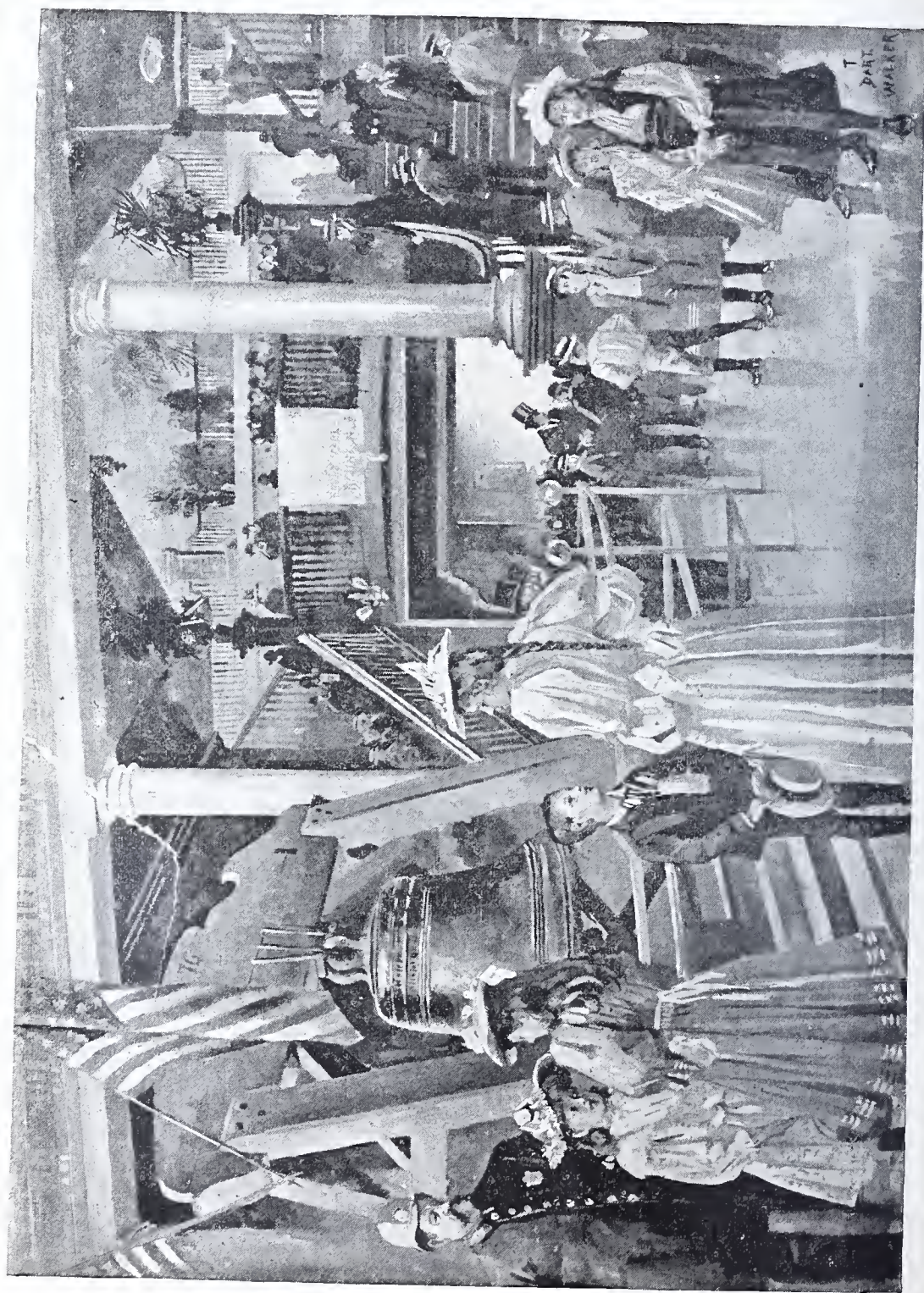
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21. 2500 for 1000  
22. 2500 for 1000  
23. 2500 for 1000

*LEIKKE MICHIGAN*









View in Pennsylvania Building



# CATALOGUE

OF

THE EXHIBITS OF THE STATE OF PENNSYLVANIA  
AND OF PENNSYLVANIANS

AT

# The World's Columbian Exposition

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*ILLUSTRATED.*

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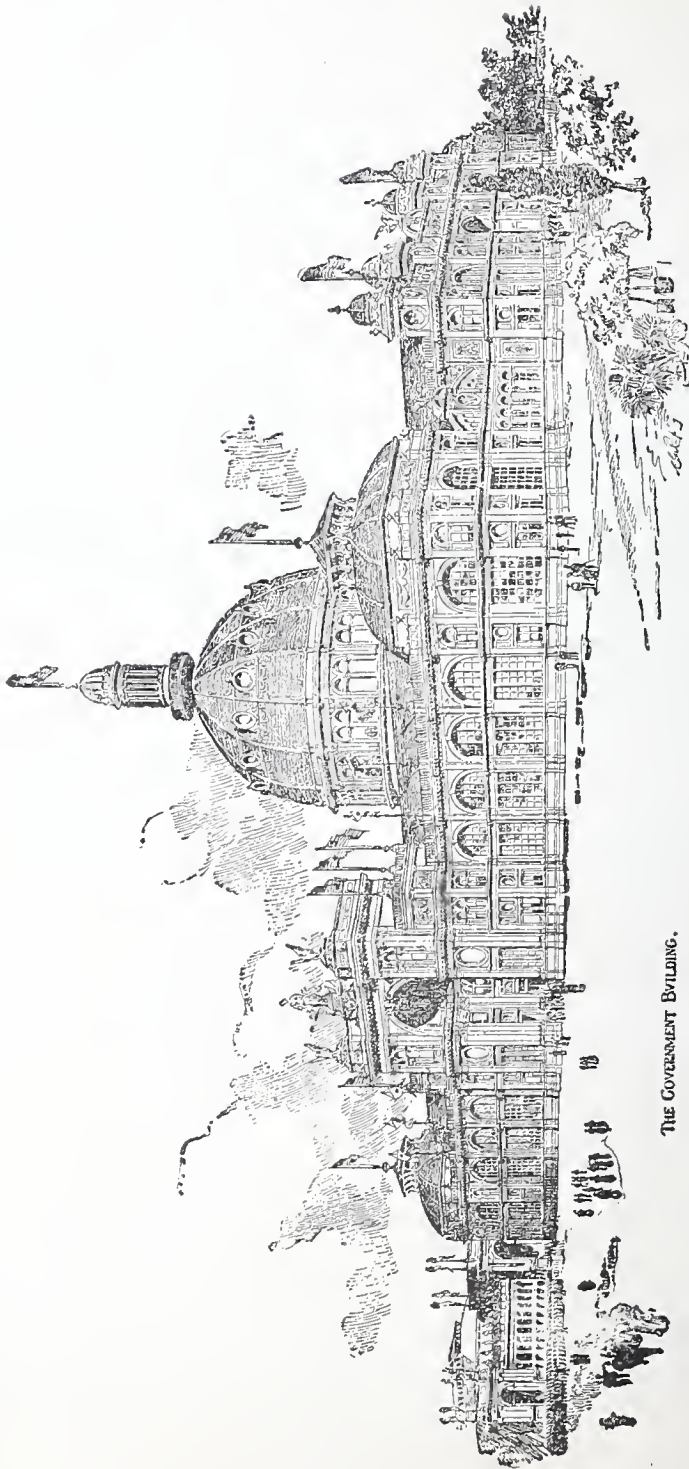
JULY 31, 1893.

PREPARED UNDER THE DIRECTION OF A. B. FARQUHAR,  
EXECUTIVE COMMISSIONER.

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CLARENCE M. BUSCH,  
STATE PRINTER OF PENNSYLVANIA.  
1893.

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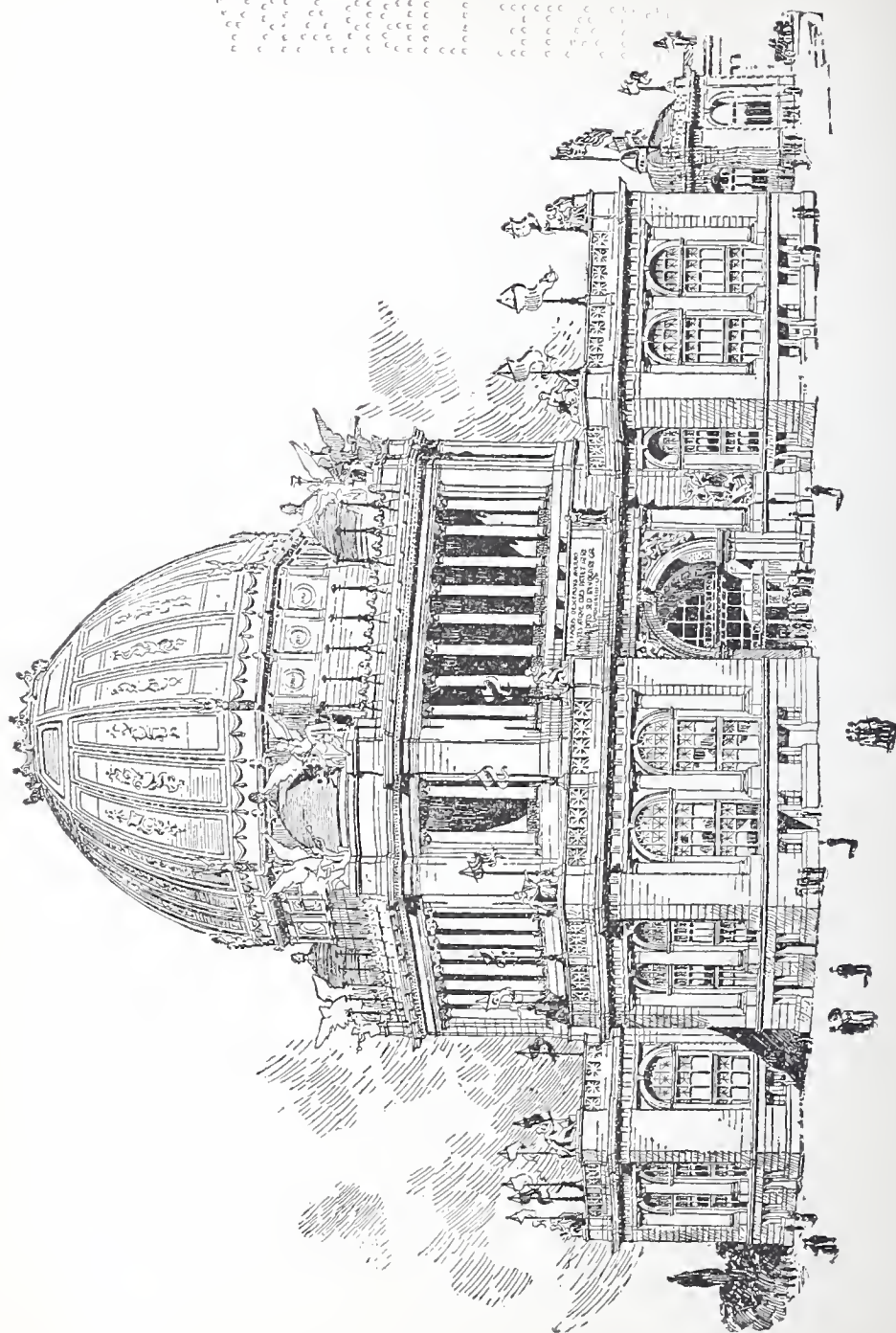
THE GOVERNMENT BUILDING.

By transfer

JUN 9 1914

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ADMINISTRATION BUILDING

# STATE GOVERNMENT.

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ROBERT E. PATTISON.

*Lieutenant Governor,*

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*Superintendent of Banking,*

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*Superintendent Public Buildings and Grounds,*

JOHN LOCKHART.

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CLARENCE M. BUSCH.



# BOARD OF WORLD'S FAIR MANAGERS — OF — PENNSYLVANIA.

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 Secretary, ..... ROBERT E. WRIGHT, ..... Harrisburg, Pa.  
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 Chief Clerk, ..... WILSON M. GEARHART,  
*Pennsylvania State Building, Jackson Park, Chicago.*  
 Head of Bureau of Information, ..... WALTER C. LOWRY,  
*Pennsylvania State Building, Jackson Park, Chicago.*  
 Stenographer, ..... MARTHA G. SOBER,  
*Pennsylvania State Building, Jackson Park, Chicago—*

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### *Members.*

### *Post Office Address.*

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 Bent, Luther S., ..... Steelton, Pa.  
 Bigler, E. A., ..... Clearfield, Pa.

<i>Members.</i>	<i>Post Office Address.</i>
Bradley, Thomas, .....	Philadelphia, Pa.
Brownfield, Robert L., .....	Philadelphia, Pa.
Carter, John I., .....	Chatham, Chester county, Pa.
Clendenin, W. W., .....	Newcastle, Pa.
Davis, L. Clarke, .....	Philadelphia, Pa.
Emery, Lewis, Jr., .....	Bradford, Pa.
Foley, Patrick, .....	Pittsburgh, Pa.
Guffey, James M., .....	Pittsburgh, Pa.
Gill, Wm. B., .....	Philadelphia, Pa.
Hall, J. K. P., .....	St. Mary's, Elk county, Pa.
Hasson, Wm., .....	Oil City, Pa.
Herr, Joel A., .....	Cedar Springs, Pa.
Jones, Mrs. Mabel Cronise, .....	Harrisburg, Pa.
McAteer, H. J., .....	Alexandria, Pa.
McCandless, Miss Mary E., .....	Pittsburgh, Pa.
Mercur, Rodney A., .....	Towanda, Pa.
Merritt, Thos. P., .....	Reading, Pa.
Muhr, Simon, .....	Philadelphia, Pa.
Pattison, Robert E., .....	Harrisburg, Pa.
Purvis, Robert, .....	Philadelphia, Pa.
Ricketts, R. Bruce, .....	Wilkes Barre, Pa.
Riley, Geo. N., .....	Pittsburgh, Pa.
Roenigk, A. G., .....	Pittsburgh, Pa.
Shelton, Mrs. Matilda Hart, .....	Philadelphia, Pa.
Searle, Roger S., .....	Montrose, Pa.
Thomas, C. Wesley, .....	Philadelphia, Pa.
Taylor, A. W., .....	Philadelphia, Pa.
Tyler, Mrs. Ida A. Elkins, .....	Philadelphia, Pa.
Thompson, C. C., .....	Warren, Pa.
Walker, Jos. C., .....	Gap, Lancaster county, Pa.
Watres, Louis A., .....	Scranton, Pa.
Whitman, Benjamin, .....	Erie, Pa.
Widener, P. A. B., .....	Philadelphia, Pa.
Williams, Edward H., .....	Philadelphia, Pa.
Williams, Morgan B., .....	Wilkes Barre, Pa.
Woodside, John W., .....	Philadelphia, Pa.
Wright, Robert E., .....	Allentown, Pa.

The Exposition Officials classified the exhibits at the Fair into the various departments given below, and that classification is followed in this catalogue.

A. AGRICULTURE—Food and Food Products, Farming Machinery and Appliances.

W. I. Buchanan, *Chief*.

John A. Woodward, in charge of the Pennsylvania Exhibits.

B. HORTICULTURE—Floriculture, etc.

J. M. Samuels, *Chief*.

Robert Craig, in charge of the Pennsylvania Exhibits.

C. LIVE STOCK—Domestic and Wild Animals.

W. I. Buchanan, *Chief*.

John A. Woodward, in charge of the Pennsylvania Exhibits.

D. FISHERIES AND FISH—Fish Products and Apparatus of Fishing.

J. W. Collins, *Chief*.

John Gay, in charge of the Pennsylvania Exhibits.

E. MINES—Mining and Metallurgy.

Fred'k. J. V. Skiff, *Chief*.

Prof. Louis E. Reber, in charge of the Pennsylvania Exhibits.

Prof. Andrew Sherwood, *Assistant*.

Prof. Romyu Hitchcock, *Expert*.

F. MACHINERY.

L. W. Robinson, *Chief*.

G. TRANSPORTATION—Railways, Vehicles and Vessels.

W. A. Smith, *Chief*.

H. MANUFACTURES.

Jas. Allison, *Chief*.

J. ELECTRICITY and Electrical Appliances.

Prof. John P. Barrett, *Chief*.

K. FINE ARTS.

Halsey C. Ives, *Chief*.

Robert L. Brownfield, in charge of the Pennsylvania Exhibits.

L. LIBERAL ARTS.

Selim H. Peabody, *Chief*.

John A. Woodward, in charge of the Pennsylvania Exhibits.

M. ETHNOLOGY.

Prof. F. W. Putnam, *Chief*.

John A. Woodward, in charge of the Pennsylvania Exhibits.

O. PUBLICITY and Promotion.

Moses P. Handy, *Chief*.



**N. FORESTRY and Forest Products.**

W. I. Buchanan, *Chief*.

John A. Woodward, in charge of the Pennsylvania Exhibits.

**P. FOREIGN AFFAIRS.**

Walker Fearn, *Chief*.

---

**DEPARTMENT OF WOMAN'S WORK.**

Mrs. Bertha Honoré Palmer, President of Board of Lady Managers. Mrs. Matilda Hart Shelton, Commissioner of Woman's Work, Philadelphia.

**PENNSYLVANIA STANDING COMMITTEES.**

COMMITTEE A.—Agriculture, Food and its Accessories, Forestry and Forest Products, Agricultural Machinery—Joel A. Herr, chairman; E. A. Bigler, John I. Carter, J. K. P. Hall, Roger S. Searle and Joseph C. Walker.

COMMITTEE B.—Horticulture, Viticulture, Pomology, Floriculture, etc.—Joseph C. Walker, chairman; Miss Mary E. McCandless, Rodney A. Mercur, Mrs. Ida A. Elkins Tyler and John W. Woodside.

COMMITTEE C.—Live Stock, Domestic and Wild Animals—Roger S. Searle, chairman; John I. Carter, Thomas Bradley, Joel A. Herr and H. J. McAteer.

COMMITTEE D.—Fish, Fisheries, Fish Products and Apparatus of Fishing—Albert J. Barr, chairman; Simon Muhr, W. W. Clendenin, J. K. P. Hall and Robert E. Wright.

COMMITTEE E.—Mines, Mining and Metallurgy—Morgan B. Williams, chairman; C. C. Thompson, Lewis Emery, Jr., James M. Guffey, William Hasson, Thomas P. Merritt and Louis A. Watres.

COMMITTEE F.—Machinery—Edward H. Williams, chairman; Luther S. Bent, vice chairman; C. Wesley Thomas, James M. Guffey and R. Bruce Ricketts.

COMMITTEE G.—Transportation, Railways, Vessels and Vehicles—A. W. Taylor, chairman; Joseph C. Walker, A. J. Barr, L. Clarke Davis and P. A. B. Widener.

COMMITTEE H.—Manufactures—George N. Riley, chairman; Luther S. Bent, P. Foley, Thomas P. Merritt and Edward H. Williams.

COMMITTEE J.—Electricity and Electrical Appliances—William B. Gill, chairman; A. W. Taylor, W. W. Clendenin, L. Clarke Davis and George N. Riley.

COMMITTEE K.—Fine Arts, Painting, Sculpture, Architecture and Decorations—Robert L. Brownfield, chairman; Mrs. Mabel Cronise Jones, Lewis Emery, Jr., William Hasson, Mrs. Matilda Hart Shelton, H. J. McAteer and A. G. Rœnigk.

COMMITTEE L.—Liberal Arts, Education, Literature, Engineering, Public Works, Music and the Drama—Thomas P. Merritt, chairman; Robert L. Brownfield, Thomas Bradley, P. Foley, William B. Gill, James M. Guffey and P. A. B. Widener.

COMMITTEE M.—Ethnology, Archæology, Progress of Labor and Inventions—H. J. McAteer, chairman; E. A. Bigler, R. Bruce Ricketts, Robert Purvis, Louis A. Watres, Simon Muhr and Morgan B. Williams.

JURIES OF ACCEPTANCE, DEPARTMENT OF FINE ARTS. (K.)

(Pennsylvania Members only are given.)

**GROUP 139. Sculpture.**

John J. Boyle, Daniel C. French,  
Olin L. Warner.

*Alternate.*

John J. Boyle.

---

**GROUP 140. Paintings in Oil.**

J. W. Beatty, Chas. E. Dana,  
Stephen Parrish, Clifford P. Grayson,  
Jos. R. Woodsell, Eastman Johnson,  
H. Bolton Jones.

*National Jury at Chicago.*

Thomas Hovenden.

---

**GROUP 141. Paintings in Water Colors.**

(Same as Group 140.)

FROM GROUPS 139-145.—ARCHITECTURE.

Frank Miles Day, Henry Pettitt,  
John Stewardson, W. B. Tuthill,  
Edmund N. Wheelwright.

---

**GROUP 142. Paintings on Ivory, Enamel, Metal, Porcelain and Other Surfaces, and Fresco Painting on Walls.**

(Same Juries as for Paintings and Architecture.)

## GROUP 143. Engravings and Etchings—Prints.

*For Etchings :*

Herman Faber.                      Max Rosenthal  
Bernhard Uhle.

*For Wood Engraving :*

A. M. Lindsey.                      C. H. Reed.

COMMITTEE ON THE RETROSPECTIVE EXHIBIT OF  
AMERICAN PAINTING.

*Committee at Large :*

Chas. Henry Hart, *Chairman*, Philadelphia.

*Advisory Committee :*

Chas. Henry Hart.                      Henry Whelen, Jr.  
J. Granville Leach.

## PENNSYLVANIA ADVISORY COMMITTEE ON ART.

*Painting :*

Stephen Parrish, *Chairman*, Philadelphia.  
Clifford P. Grayson, *Secretary*, Philadelphia.  
Charles E. Dana, Philadelphia.  
Joseph R. Woodwell, Pittsburgh.  
John W. Beatty, Pittsburgh.

*Architecture :*

Frank Miles Day, Philadelphia.  
Henry Pettitt, Philadelphia.  
John Stewardson, Philadelphia.

*Sculpture :*

John J. Boyle, Chicago.

## ALTERNATES.

*Painting :*

Stephen Parrish, Philadelphia.  
Carl Newman, Philadelphia.  
Leslie W. Miller, Philadelphia.

*Painting :*

A. S. Wall, Pittsburgh.  
George Hetzel, Pittsburgh

*Architecture :*

Wilson Eyre, Jr., Philadelphia.  
Prof. L. W. Laird, Philadelphia.  
Joseph M. Wilson, Philadelphia.

*Sculpture :*

Chas. Grafly, Philadelphia.

*Sub-Committee on Etching :*Herman Faber, *Chairman*, Philadelphia.

Max Rosenthall, Philadelphia.

Bernhard Uhle, Philadelphia.

*Sub-Committee on Wood Engraving :*

A. M. Lindsey, Philadelphia.

C. H. Reed, Philadelphia.

*Joint Art Committee :*Robert L. Brownfield, *Chairman*.

Miss Emily Sartain. Clifford Grayson.

*Woman's Art Committee :*Emily Sartain, *Chairman*. Minerva Parker Nichols.

Gabrielle D. Clements. Alice Barber Stephens.

## COMMITTEE ON WOMAN'S WORK.

Mrs. Matilda Hart Shelton, *President*.Mr. John W. Woodside, *Treasurer*.

Mrs. Ida A. Elkins Tyler.

Miss Mary E. McCandless.

Mrs. Thomas M. Jones.



# PENNSYLVANIA STATE BUILDING.

A. B. Farquhar, <i>Executive Commissioner.</i>	}	<i>Executive Commissioner's Office.</i>
W. M. Gearhart, <i>Chief Clerk.</i>		
Walter C. Lowry, <i>Chief, Bureau of Information.</i>		
Martha G. Sober, <i>Stenographer.</i>		

*Hostess :*

Mrs. Agnes Trunkey.

*Matrons :*

Mrs. Anna M. Holstein. Miss Jennie Gutelius.

*Post Mistress :*

Mrs. Rectina S. C. Espy.

*Newspaper Files Room :*

W. G. McKean.

*Parcel Rooms :*

Mrs. Katharine Boehmer. P. A. Fishell.

*Janitors :*

John Holmes. John Embick. John Brightbill.

*Attendants, Toilet Rooms :*

Mrs. Alice Gruber. William Stinson.

*Pages :*

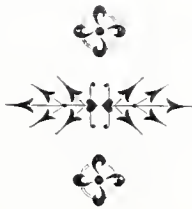
Pauline Smith. Albert Churchman.

Charles Churchman. Orville Farnsworth.

*Special Officers in Charge of Liberty Bell :*

Thos. Gillingham. William Search.

George Matchner. George Benners.



The following is the list of the Pennsylvania Members of the Juries of  
Awards (so far as confirmed):

---

Department A.—Agriculture, etc.

N. B. Critchfield,  
Harry J. Shoemaker,  
Col. Joseph F. Tobias,  
Robert G. Woodside,  
Miss. Belle Bevier,  
Mrs. Laura D. Worley.

Department B.—Horticulture, etc.

Robert Craig.

Department C.—Live Stock, etc.

Henry L. Twodell,  
H. Jarret,  
Dr. M. H. Cryer,  
Hon. D. H. Branson,  
Dr. D. H. Brinton.

Department D.—Fishes, etc.

Henry C. Ford,  
L. Clarke Davis.

Department E.—Mines, etc.

Geo. F. Birkabine,  
Joseph D. Weeks.

Department F.—Machinery.

Prof. Louis E. Reber.

Department G.—Transportation, etc.

A. S. Vogt.  
W. H. Jaques.

Department H.—Manufactures.

John Griffith,  
Charles L. Hamilton,  
John R. Kendriek,  
Prof. Edgar F. Smith,  
Miss. Goodwin,  
Peter L. Krider.

Department J.—Electricity.

H. J. Ryan,  
George F. Barker.

Department K.—Fine Arts.

Miss. Emily Sartain.

Department L.—Liberal Arts.

J. C. Brown.

Department M.—Ethnology.

Miss Annie H. Wharton,  
Mrs. Cornelius M. Stevenson,  
Dr. Harrison Allen.

Department N.—Forestry, etc.

Woman's Work.



## INTRODUCTORY.

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This Catalogue is intended to serve only as a guide to the State Exhibits of Pennsylvania and to the exhibits of individual Pennsylvanians. For this reason the ground plans of the buildings have been omitted, since they would unnecessarily, greatly increase the expense and bulk of the volume, and for the further reason, that the ordinary visitor, even with their assistance, will find himself compelled to ask directions as to location of Exhibits, etc., from the Columbian Guards who are numerous, well-informed and courteous.

The arrangement of the Catalogue is briefly as follows :

First, There is given a description of the Pennsylvania State Buildings—together with the relics and objects of historical interest, etc., which it contains. Then follows a list of the Pennsylvania State (as distinguished from individual) exhibits, classified according to Departments (See page 15,) and finally a list of the private exhibits of Pennsylvanians is given.

The following general explanation will serve as a key to the manner in which the Exhibits are installed in the various buildings. For the purpose of installation of Exhibits the buildings are divided into sections "A," "B," "C," etc. Beginning at the centre of the buildings in each section, each column is lettered from "A," down the alphabet, towards the outside of the building ; beginning with the outside and going towards the centre of the building the columns are numbered from "one" up. The columns in each section are lettered and numbered separately, that is, for example, in each section column "1—A" can be found. The location of an Exhibit is indicated by two letters and a figure. For instance, an Exhibit located in H—G—5, means that it is in section H, where the lines of the columns G and 5 cross. At the head of each list of private exhibitors below, will be found a detailed explanation relating to each building.



Pennsylvania State Building  
Columbian World's Fair



## PENNSYLVANIA STATE BUILDING.

---

The Pennsylvania State Building is located in the North end of the Exposition Grounds, fronting on Fifty-seventh street, about equally distant from the east and west sides of Jackson Park. It faces the Palace of Fine Arts, and is situated between the New York State Building on the east, and Missouri on the west, with the Territorial Building on the north.

In architecture, it is colonial, and is new in design, except that the exterior of the tower is a *fac-simile* of the present tower on Independence Hall in Philadelphia.

The building is commodious and convenient in plan, having a piazza twenty feet wide on both the first and second stories, the rooms opening upon them and into each other, with no narrow doors to crowd visitors.

Surmounting the main facade of the building are several characteristic and allegorical pieces of statuary. First comes the Pennsylvania coat-of-arms. The grouping and pose of the horses and eagle are intended to represent them in an active and alert attitude, in connection with the shield and patriotic sentiment that form the seal of the State, as described by heraldic device, approved by act of the Legislature, dated March 31, 1875. The horses are life-size, modeled complete on every side and standing twelve feet clear of the wall face, upon a substantial pedestal foundation immediately over the central entrance.

Flanking this group on either side stand the figures of William Penn and Benjamin Franklin. The former shows the keen yet dignified man of affairs, ready for any emergency, unmistakably a man of peace rather than war, costumed as befitted his station and representative capacity.

The statue of Franklin shows the thoughtful, meditative attitude of the scientist and statesman, whose mind was ever engaged in the research and development of the things that contribute to the advancement and happiness of mankind, in all the fields of knowledge, whether of science or the household; and while the figures are heroic in size, about twelve feet high, and are of necessity somewhat similar in their relation to the more important central group, each bespeaks marked and characteristic individuality, and commands attention from its historic value and accuracy.

The allegorical groups at the right and left angles of the building, are in composition, indicative of the progress and influence developed by the resources of the State in the direction of mines and mining, on the one hand, and of science, manufacture and agriculture, on the other. The central figure in either case is the sheltering and guiding spirit making advanced movement along the lines of the industries represented. In the former, she is flanked on one side by a miner, with a lamp in his hat and a pick in his hand, resting on a block of coal, and on the other by an oil-well digger with the implements of his craft. The second group consists entirely of female figures, representing *science, manufacture and agriculture*. Both groups are spirited and full of vigor and individuality, and characteristic of the genius of the sculptor, JOHN J. BOYLE, of Philadelphia, the earnest artist of international reputation, to whom was entrusted the carrying out of this work.

Pennsylvania, of all the States represented by buildings on the Exposition Grounds, is the only one in which the kindred arts of architecture and sculpture have been so happily combined. In this respect its architect, Mr. Thomas P. Lonsdale, has striven faithfully to make the structure bespeak the intellectual worth and national standing of the Keystone State.

Tasteful floral exhibits surround the building.

The design of the building was, and is, the mental and physical comfort of guests. It is fitted in a comfortable and home-like manner, carpeted throughout and bountifully supplied with cushioned chairs and lounges.

On the first floor is the Gentlemen's Parlor, Smoking Room, and Toilet Rooms; the Grand Reception Room, Post Office and Bureau of Information, Parcel Rooms, Ladies Parlor, Ladies Private Parlor and Toilet Rooms.

The Ladies Parlors were furnished and decorated by and under the exclusive direction of Miss Emily Sartain, of the School of Design for Women, of Philadelphia, and are justly considered to be the most tastefully decorated rooms on the whole grounds.

On the second floor are the Governor's room; the Executive Commissioners general and private offices, the Commissioners, the Philadelphia and the newspaper rooms. Also a newspaper correspondents' room for general reading and writing purposes. There is a long distance telephone, Western Union Telegraph and a Postal Telegraph Office in the building. The fountains on the first floor dispense cold Waukesha water to all guests.

In the building are to be found numerous articles of extreme rarity, relics of historical value, articles belonging to the famous characters of

our National and State History (for the safety of which insurance policies have been issued), books, paintings in oil, water colors, etchings, valuable china, etc. The following is a list and brief description of these.

The RELICS and OBJECTS of historical interest are :

### 1. THE LIBERTY BELL.

This bell was brought from Philadelphia and stands directly opposite the main entrance on a specially constructed carriage under a special guard of four reserve officers, detailed by the Mayor of Philadelphia. The bell was cast in 1752, or 24 years before the Declaration of Independence was made. In view of this fact the inscription upon it is especially interesting. "By order of the Province of Pennsylvania in the State House of the city of Philadelphia, 1752." "Proclaim Liberty throughout all the Land unto all the inhabitants thereof." A pamphlet can be obtained in the building giving a complete history of the bell. Its last tolling was upon the death of John Marshall, (the only remaining prominent survivor of the Revolution,) 1835, during whose funeral service the bell cracked, and has never since been repaired.

2. Railing of steel and phosphor bronze surrounding same.

### PENN RELICS.

3. Portrait of William Penn.

4. Portrait of Hannah Penn.

### WASHINGTON RELICS.

5. Punch bowl used by Washington during the Revolution.

6. Portrait of Washington painted when he was Commander-in-Chief.

7. Plaster Cast of face of Gen. Washington taken shortly before his death.

### MISCELLANEOUS RELICS.

8. Sword of Gen. Anthony Wayne.

9. Map of Philadelphia with parts adjacent, 1750—State House perspective.

10. Silver Lamp used in Philadelphia during the Revolution.

11. Fork and Spoon from Valley Forge.

12. Lace Scarf worn by Mrs. John Adams when she sat for her picture to Stuart.
13. Waistcoat worn at the Republican Court.
14. Watch, Vest and Stockings worn by Charles Carroll, of Carrollton, when he signed the Declaration.
15. Old Hymn Book printed in Germantown in 1772.
16. Ale Mug that belonged to John Paul Jones.
17. Portrait of Bishop White and manuscript of first prayer in Congress in the handwriting of John Hancock.
18. Bayonet and Flint Lock taken from the frigate Augusta sunk in the Delaware during the Revolution.
19. Navy Memorial Pitcher.
20. Ancient document relating to the settlement of the Swedes before the time of Penn.
21. Mammoth photograph of the Centennial of 1876.

#### PRIVATE OWNERS.

22. Dress Sword of John Hancock, first President of American Congress and signer of the Declaration of Independence. Loaned by his great grand nephew, Thomas Chase.
23. Sword of Lieutenant Thomas G. Chase, grand nephew of John Chase, used in the War of 1812. Loaned by his widow, Mrs. Harriet Chase.
24. Old Woodcut, 1761, representing the house and ground of John Hancock. Property of Mrs. I. A. Bush, daughter of Thomas G. Chase.
25. Ancient Damascus Blade loaned by George E. Chase, great grand nephew of John Hancock.
26. Two swords captured by Commodore Stewart from the British ships at the time of the destruction of the frigate Constitution. Property of Mrs. Delia Stewart Parnell, daughter of Commodore Stewart.
27. Masonic Certificate of George A. Baker, and also old fashioned Waistcoat and antique Wine Glasses, the property of Mrs. Crandell, of Chicago.
28. Certificate of incorporation of Pennsylvania Prison Society, founded in 1731, first in the world, Bishop White first President.
29. Certificate of incorporation of Society for the Abolition of Slavery, first of the kind organized in the world.

## LIST OF FRAMED PORTRAITS OF MAYORS OF PHILADELPHIA.

- |                       |                           |
|-----------------------|---------------------------|
| 30. Matthew Clarkson. | 46. Robert Wharton.       |
| 31. C. Willing.       | 47. Daniel T. Fox.        |
| 32. Thomas Willing.   | 48. Robert T. Conrad.     |
| 33. Alexander Henry.  | 49. Michael Keppelle.     |
| 34. Richard Vaux.     | 50. Charles Gilpin.       |
| 35. John Geyer.       | 51. Morton McMichael.     |
| 36. Isaac Roach.      | 52. Joseph Watson.        |
| 37. Peter McCall.     | 53. John M. Scott.        |
| 38. William Milner.   | 54. John Joseph Kepp.     |
| 39. Samuel Powell.    | 55. Benjamin W. Richards. |
| 40. George M. Dallas. | 56. Gen. John Baker.      |
| 41. Hillary Baker.    | 57. William S. Stokley.   |
| 42. Joel Jones.       | 58. William B. Smith.     |
| 43. Samuel Miley.     | 59. Edwin H. Fitler.      |
| 44. John Swift.       | 60. Edwin S. Stuart.      |
| 45. John Barclay.     |                           |

63. Oil painting by Charles H. Weisgerber, representing the birth of the nations Flag.

64. Framed photographs of joint special Committee of Councils and Officers.

65. Antique French Clock.





# Art Contributions in State Building.

## LADIES' RECEPTION ROOM, (left of Main Entrance).

### Mural Decorations Painted by Women.

- |   |  |
|---|--|
| Rongier, Jeanne, 1346 N. Broad St., Philadelphia.           | Dodson, Miss Sarah P., Brighton, England.                      |
| 1. <i>Reverie.</i>  | 5. <i>Pax Patriae.</i>   |
| 2. <i>Maternity.</i>  | Slater, Mary E., 639 N. 16th St., Philadelphia, Pa.            |
| Leslie, Mrs. Margaret Bush-Brown, Newburgh, N. Y.           | 6. <i>Three decorated panels, in relief.</i>                   |
| 3. <i>Spring.</i>   | Grafly, Chas., S. W. cor. 22d and Arch Sts., Philadelphia, Pa. |
| Clements, Miss Gabrielle D., No. 2120 Vine St., Phila., Pa. | 6a. <i>Genius of Art, (original model, unique).</i>            |
| 4. <i>Harvest.</i>  |  |

## ETCHINGS.

### CORRIDOR.

- |                                     |  |
|-------------------------------------|--|
| Taylor, Margaret M.                 | Dillaye, Blanche                         |
| 7. <i>On Nantucket Beach.</i>       | 15. <i>Low Tide on a Dutch River.</i>    |
| Getchell, Edith Loring              | Canby, Louise P.                         |
| 8. <i>Bristol Canal,</i>            | 16. <i>Prince's Canal, Amsterdam.</i>    |
| 9. <i>Desolation.</i>               |  |
| Lloyd, H. H.                        | Sartain, Emily                           |
| 10. <i>Brook Farm.</i>              | 17. <i>In the Gloaming.</i>              |
| Matlack, Eleanor                    | Lloyd, H. H.                             |
| 11. <i>Beech Woods in Winter.</i>   | 18. <i>Noontime Retreat.</i>             |
| Richardson, Clara V.                | Matlack, Eleanor                         |
| 12. <i>The River Path.</i>          | 19. <i>The River, Stratford on Avon.</i> |
| Canby, Louise P.                    | Getchell, Edith Loring                   |
| 13. <i>The Castle of Chillon.</i>   | 20. <i>Moonrise.</i>                     |
| Getchell, Edith Loring              | 21. <i>Dordrecht Canal.</i>              |
| 14. <i>Tomb of St. Bavo, Ghent.</i> |  |

Taylor, Margaret M.

22. *Ebb Tide.*

Ritchie, H.

23. *Old Hamilton House, Woodlands.*

Matlack, Eleanor

24. *Pond at Kingston.*

Lloyd, H. H.

25. *Willow Pool.*

Richardson, Clara V.

26. *Watt Glen.*

Matlack, Eleanor

27. *Wood Path.*

Taylor, Margaret M.

28. *Near the Bay.*

Este, Florence

29. *A Centenarian, Etretat.*

### LADIES' PARLOR.

Sartain, Emily

30. *Mezzotint Portraits.*

Dillaye, Blanche

31. *Early Morning, Dordrecht Canal.*

32. *Fishing Weirs, Bay of Fundy.*

Getchell, Edith Loring

33. *A Bit of Sunshine.*

Clements, Gabrielle D.

34. *The Old Moat.*

Sartain, Emily

35. *Welcome News.*

Clements, Gabrielle D.

36. *New England Road.*

Clements, Gabrielle D.

37. *A Quiet Corner.*

Getchell, Edith Loring

38. *Solitude.*

Clements, Gabrielle D.

39. *Granite Quarry, Rockport.*

Canby, Louise P.

40. *Old Canal, Oswego.*

Getchell, Edith Loring.

41. *Morn, Noon, Evening.*

Dillaye, Blanche

42. *A Dutch Water-Way.*

Taylor, Margaret M.

43. *Evening Hour.*

Matlack, Eleanor

44. *Boulders in Rhode Island.*

Natt, Phebe D.

45. *The Child Musician.*

Matlack, Eleanor

46. *Naragansett Coast.*

Farrell, Katherine Levin

47. *Springtime of Love.*

Matlack, Eleanor

48. *Woods in Winter.*

Este, Florence

49. *'Twi'x Daylight and Dark*

Dillaye, Blanche

50. *A Narrow Way.*

51. *Ocean City Marsh.*

Clements, Gabrielle D.

52. *A Continental Street.*

53. *St. Modeste, Chartres.*

Getchell, Edith Loring

54. *Behind the Sand—Dunes.*

Dillaye, Blanche

55. *Mist on the Cornish Coast.*

Clements, Gabrielle D.

56. *Norman Stair—Tower, Mount St. Michael.*

57. *St. Francois, Chartres.*

Farrell, Katherine Levin

58. *Five Pound Island.*

Dillaye, Blanche

59. *Leaning Houses, Holland.*

Taylor, Margaret M.

60. *River View.*

Canby, Lewis P.

61. *Fishing Smacks.*

Lloyd, H. H.

62. *Their Faithful Guardians.*

Getchell, Edith Loring

63. *Willow, Weed and Wallow.*

Farrell, Katherine L.

64. *South Dartmouth Wharf.*

Dillaye, Blanche

65. *Country Road.*

Taylor, Margaret M.

66. *On the Delaware.*

Dillaye, Blanche

67. *A Mob of Houses,*

Farrell, Katherine L.

68. *The Clarinet Player.*

Natt, Phebe D.

69. *Citoyenne Jeanne.*

Canby, Louise P.

70. *Ice Shipping on the Kennebec.*

#### STAINED GLASS.

Sweney, Fanny D., 3130 Chestnut St., Phila.

*Spring* (West Window of Ladies' Parlor.)

Works of Art Collected by Chairman Brownfield's Committee.

#### PAINTINGS.

Bisbing, Henry S.

71. *Holland Meadows.*

Bare, Martha W.

72. *Still Life.*

Vermorcken, F. N.

73. *Portrait.*

Eakins, Thomas

74. *The Singer.*

Waugh, Ida

75. *Jerta.*

Cariss, H. T.

76. *The Oath of Allegiance at Valley Forge.*

Moran, Peter

77. *A. June Morning.*

Lewis, E. D.

78. *Sunrise off Coast of Labrador.*

Moran, Peter

79. *Meadow Pool.*

Beck, Carol H.

80. *Daffodil.*

Lewis, E. D.

81. *Lake, Afternoon.*

Parrish, Stephen

82. *October.*

Parrish Maxfield

83. *Landscape.*

Von Helmold, Adele

84. *Portrait.*



**Gilman, B. F.**

85. *A Connoisseur.*

**Cox, Charles B.**

86. *The Mexican Horse Wrangler.*

**Frank, Eugene C.**

87. *Near St. Amend, Belgium.*

**Morris, Jenny H.**

88. *Catherine Mermet Roses.*

**Butler, Mrs. E.**

89. *Washington.*

**Bare, Martha W.**

90. *Roses and Vase.*

**Richards, F. De Berg**

91 *Pike's Peak, Sunrise.*

**Hamilton, James (deceased.)**

92. *Solitude.*

**Weisgerber, C. H.**

93. *Birth of Our Nations Flag.*

**Jordan, David Wilson**

94. *Rocky Mountains at Sunset.*

**Castello, Eugene**

95. *Mosque of Sheykoon, Cairo.*

**Waugh, Ida**

96. *All in Four Seconds.*

**Anderson, A. A.**

97. *Portrait.*

**Parrish, Maxfield**

98. *Apple Tree.*

**Hunt, Lindsay**

99. *Greenbank Farm.*

**Anderson, A. A.**

100. *Portrait.*

**Farrell, Mrs. K. Levin**

101. *A. Gloucester Wharf.*

**Dana, Charles E.**

102. *Back of the Church of St. Gangolph.*

**Weber, Carl**

\*103. *Scene in the Jersey Flats, (Sold).*

**Dana, Charles E.**

104. *Chateau de Gruyere.*

**Farrell, Mrs. K. Levin**

105. *Five Pound Island, Gloucester.*

**Waugh, F. J.**

106. *Early to Rise.*

**Lippincott, Margarette**

107. *Bowl of Roses.*

**Sinnickson, Mary H.**

108. *A North Carolina Mountaineer.*

**Waugh, F. J.**

109. *Hush of Evening.*

**Wright, George**

110. *On Board an Ocean Greyhound.*

**Heaton, A. G.**

111. *The Master of the Keys.*

\*First sale of any art work at the World's Fair.

## STATUARY.

## On the Facade of the State Building.

Boyle, John J.

*State Coat of Arms.**William Penn.**Benjamin Franklin.**Science, Manufactures and Agriculture.**Mines and Mining.*

## LEADED GLASS.

The Leaded Glass in the upper sash of the North windows and in the doors of the cabinets was made by Elizabeth Abel, 1717 Chestnut street, Philadelphia, Pa.

## CHINA.

The exhibit of China in the cabinets was painted expressly for the Ladies' Parlor by the following contributing members of the Philadelphia Ceramic Club :

President, Mrs. Henry T. Halliwell ; Secretary, Miss Helen Collins. Members.—Misses Anderson, Adams, Collins, Coryell, Dutton, Fell, Garrigues, Goodman, Hodgson, Justice, Lillian Jones, Linie Jones, Julia Jones, Kennedy, Mount, Moore, MacAllister, Newhall, Ogden, Russell, Robinson, Jordan, Ray, Ritchie, Schofield, H. Williard, L. Williard, Brown, Girvin, Gittens, Geist and Mesdames Cobden, Halliwell, Kean, MacPherson, Mawson and H. T. Taylor.

For information concerning the exhibit apply to Executive Commissioner's Office.

## BOOKS BY WOMEN OF PENNSYLVANIA.

## In Ladies' Private Parlor.

Arnold, Helen

"Practice in Parsing and Analysis."

Baldy, Alice Montgomery

"The Romance of a Spanish Nun."

Barker, Mrs. Eliza Hunter

"Marguerite, Baroness Leichenstein and other Poems."

"In Memoriam."

Bladen, Mrs. Elizabeth S.

"The Buryant Brigand,"

"Why he is a Bachelor."

"Error Court."

"Family Bush."

"The Missing Mustache."

Bly, Nellie (Miss Cochran,)

"Around the World in 72 Days."

**Bosson, Mrs. M. B.**

"Aunt Mena's Receipt Book."

**Boland, Mary A.**

"Handbook of Invalid Cooking."

**Brower, Edith**

"Plock."

"The Remainder—man."

**Broomall, Caroline**

"The Freebooter of the Baltic." (Translated.)

**Buckinham, Emma May**

"Parson Thorne's Trial."

**Benton, J. Rosalie**

"How to Cook Well."

**Camp, Frances G.**

"Drills in Arithmetic."

"Teaching Deaf Mutes."

"Language Lessons."

**Carson, Sarah**

"Wayside Flowers."

**Clare, Israel Smith**

"A Brief History of Lancaster county."

**Collins, Jane S.**

"Emma's Triumph."

**Cowdery, Miss E.**

"Franz Liszt," artist and man, (translated.)

**Crawford, M. J. E.**

"Songs of Earlier and Later Years."

**Custard, E. R.**

"Rose and Eliza."

**Darlington, Mrs. Mary O'Hara**

"Fort Pitt."

**Deland, Margaret**

"John Ward, Preacher."

"Sidney."

"The Old Garden."

"Story of a Child."

**Douglass, Margaret**

"Poems,"

**Egbert, Mrs. A. G.**

"Divertissement."

**Douglass, Mrs. R. Dunn**

"A Romance at the Antipodes."

**Duhring, Julia**

"Philosophers and Fools."

"Amor in Society."

"Gentlefolks and Others."

**DeWitt, Julia A. W.**

"How He Made His Fortune."

**Ellis, Agnes E.**

"Lights and Shadows of Sewickley Life."

**Enibe, —**

"Stiya."

**Endlich, E. A.**

"Katharine Von Bora."  
(Translation.)

**Everett, M. E. H.**

"Leaves Adrift." (Poems.)

**Fleishman, Mrs.**

"A Sequel to the Bread Winners, Karl Brewer's Wife."

**Foote, Julia A.**

"Brand Plucked from the Brand."

**Garrett, Mary S. and Emma**

"Papers and Reports on the Education of the Deaf."

- Gibbons, Phebe Earl**  
 "French and Belgians."  
 "Pennsylvania Dutch and Other Essays."
- Hamlin, Fannie E.**  
 "Jochebeds Trust."
- Hall, Lydia A. (Editor.)**  
 "Scattered Seeds."
- Haven, Mrs Martha Brown**  
 "Pittsburgh and Allegheny Blue Book,"
- Hedley, L. R. M. D.**  
 "The Mark of the Beast Revealed by the Shape of the Head."
- Hughes, Mrs. E. M.**  
 "Original Composition."
- Hunt, Sarah**  
 "Journal of Her Life and Religious Labors."
- Hallowell,**  
 "James and Lucretia Mott."
- Johnson, Jane**  
 "Primary Lessons for First Day Schools." I. II.  
 "Scraps of Thought and Feeling."  
 "Talks with the Children."
- Kirk, Harriet E. Stockley**  
 "Recollections of Charles Kirk."  
 "Conversations on the Queries."
- Krauth, Harriet Reynolds**  
 "Church Book."
- Lane, Lydia Spencer**  
 "I Married a Soldier."
- Loyd, Elizabeth**  
 "Literature for Little Folks."
- Matthews, Amanda K.**  
 "Angels of the Village."
- Miller, Anna DePin**  
 "Who and What?"
- Monroe, H. E.**  
 "Past Thirty."
- Moore, Rachel Wilson**  
 "Journal with notes from the Diary of Her Husband."
- Mumford, Mary E.**  
 "A Born Romp."
- McClellan, Mrs. George**  
 "Broken Chords."
- McConnell, Annie Bliss**  
 "Half Married."
- McLoughlin, Emma V.**  
 "A Too Short Vacation."
- Nevin, Adelaide M.**  
 "The Social Mirror."
- Norris, Maria M.**  
 "Poems."
- Oberholtzer, S. L.**  
 "Hope's Heart Bell."  
 "Daises of Verse."  
 "Souvenirs of Occasion."  
 "Come for Arbutus."  
 "School Savings Bank."
- Paschall, Anna S.**  
 "The Home Circle."  
 "Scripture Lessons for the Little Ones."
- Purvis, Tacy Townsend**  
 "Abi Meredith."
- Reno, Lydia M.**  
 "Early Birds."

**Reynear, Rachel**

"Chansons du Matin."

**Scott, Kate M.**

"105th Regiment Pennsylvania Volunteers."

**Stockley,**

"Conversations with Theodore and his Sister."

**Spratt, Dora E.**

"Through the Bush, or New South Wales of fifty years ago."

"Daylight, or a Daughters Duty."

**Sterling, Mrs. John** (Mary D. Eldridge.)

"Cook Book."

**Smith, Mrs. Aubray H.** (Chairman of Com.)

"Catalogue of Charities conducted by Women—made during Exposition of 1876, by Women's Centennial Ex-Committee."

**Templeton Faith**

"Drafted In."

"Wrecked, but not Lost."

**Townsend, Anna A.**

"Biblical History."

"Memoirs of Elizabeth Newport."

**Thomas, Eliza**

"Texas and Mexico."

"Recreation."

**Voltz, Miss Lizzie**

"Poems."

"Early Buds."

**White, Caroline Earle**

"Love in the Tropics."

"Poems."

**Wildrick, Mrs. Marion Wayne**

"Lord Strahan."

"A Zealot in Tulle."

"Marguerite Kent."

**Wilson, Ann**

"Letters."

**Wylie, Jean**

"Luther," poem (translation.)

"Story of a Clergyman's Daughter."

**Wyndham, Julian**

"Theo. Waddington."

**Wright, Augusta McC.**

"The Romance of a Mummy."  
(Translation.)

**Wharton, Anna H.**

"Through Colonial Doorways."

**Wills, Mary H.**

"A Summer in Europe."

"A Winter in California."

"In Memoriam" (Susan Roberts), Associate Editor of *Friends Intelligencer*.

**Holstein, Anna**

"Three years in Field and Hospital."

"Family History."

Report Oil City Kindergarten Association.

Report Sewing School, Christ Church, Oil City.

Belles Lettres Club, Oil City.

Genie of Petroleum, by Emma W. Thompson.

Report of the M. E. T. U, Venango county.

Unique, by Frank.

## MISCELLANEOUS.

1. Relief map of the State of Pennsylvania (*Newspaper File Room*.) This map was compiled, modeled and constructed by E. B. Harden, Esq., of the city of Philadelphia; it is 13 ft. long and 7 ft. 6 in. wide.

2. Relief map of the battle field of Gettysburg, Penna. This map was also made by E. B. Harden Esq., it is 7 ft. 2 in. long by 3 ft 6 in. wide.

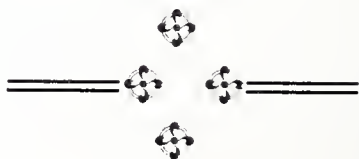
3. Charter, Charles II to Wm. Penn, and seal.

4. Quit Claim deed of James, Duke of York, and seal.

5. Certificate of the election of Thos. Mifflin, Governor of Pennsylvania, by the members of the House of Representatives, dated December 14, 1793.

6. Constitution of the Commonwealth of Pennsylvania, dated September 2, 1890.

This completes the list of the most important relics, and works of Art, etc., in the State Building. The next in order are the State (as distinguished from individual) exhibits, in the various Buildings, which are given in the alphabetical order of the Departments.





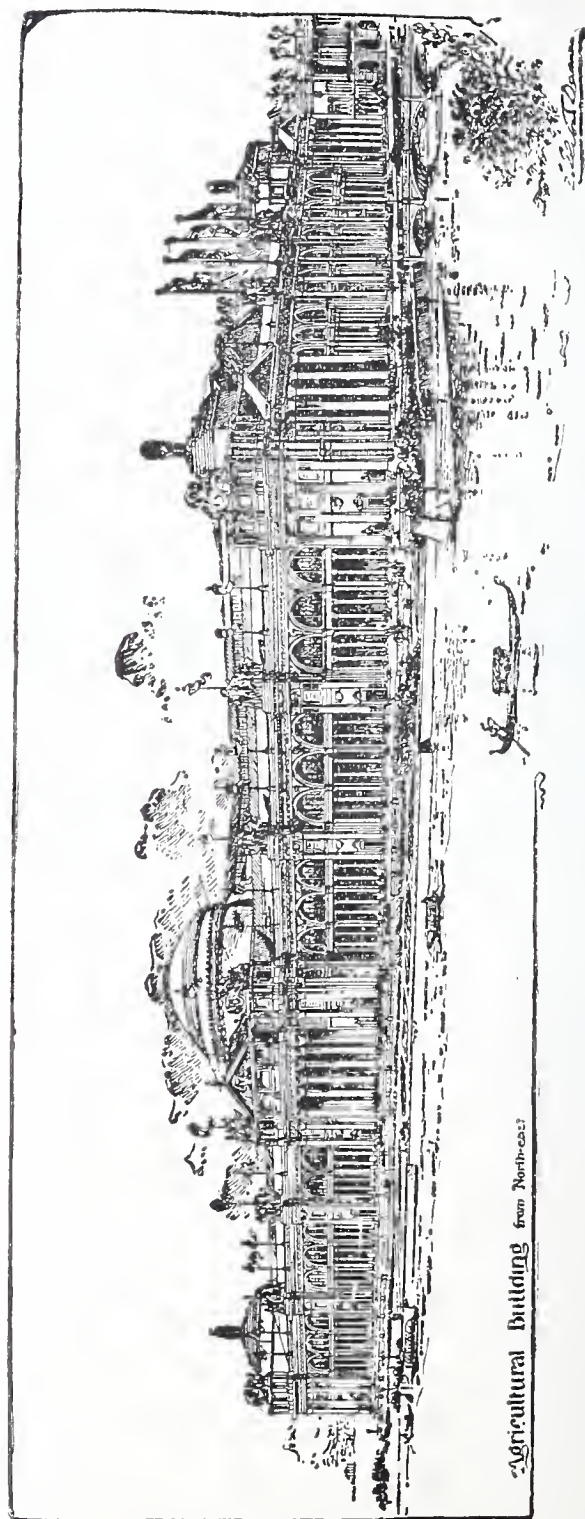


## DEPARTMENT A.



AGRICULTURE, FOOD AND FOOD PRODUCTS,  
FARMING MACHINERY AND APPLIANCES.





Agricultural Building from North-east

## AGRICULTURAL DEPARTMENT.

Our State Agricultural Exhibit has an advantageous position, being located in the centre of the building at the intersection of the two main aisles, and is worthy careful study. The facade, exhibiting the State Coat-of-Arms and the Keystone emblems all worked out in the grains and seeds of the State and surmounted by a bust of Penn, is considered to be the finest work of its class in the building. A large pagoda occupies the centre of the space, from the apex of which hangs a fac-simile of the Liberty Bell made of wheat, barley and oats heads. A cluster of electric lights form the clapper and suggest the idea of "Liberty Enlightening the World."

The old corner fire-place built of grains will warm the hearts of old time farmers. The "Grandmother's Chair" which completes this corner is made of corn stalks and contains over three thousand separate pieces. This gem of art was built by Wm. I. Ball, of Williamsport.

"Farm Homes" the photographs for which are the work of one of Pennsylvania's rural daughters, Miss Anna Belle Swayne, of Kennett Square, show our western friends how comfortably the Pennsylvania farmer lives when at home.

No more striking display of grains can be found anywhere than the three arches composed of numberless glass jars of several sizes, which constitute the entire south side of this space. These jars are the only ones of the kind ever made and were devised for the Exposition.

The collections of the grasses native in our State, one hundred and sixty-six in number, arranged by Dr. Thomas C. Potter, of Easton, is not only a thing of beauty, but educational in the highest degree, because it is exhaustive and scientifically correct.

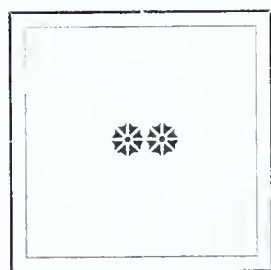
A large map of the State with a series of statistical charts hanging beneath it on wing frames, both of which are the work of Prof. H. J. Waters, and senior student Greenwood, of the Pennsylvania College, form a most interesting and educational feature of the collection.

The pleasing arrangement of farm products in this entire exhibit is the work of Mr. Fred. Decker, of Philadelphia.

Mr. G. H. Hetrick, an intelligent young farmer of York county is in constant attendance here to welcome visitors.

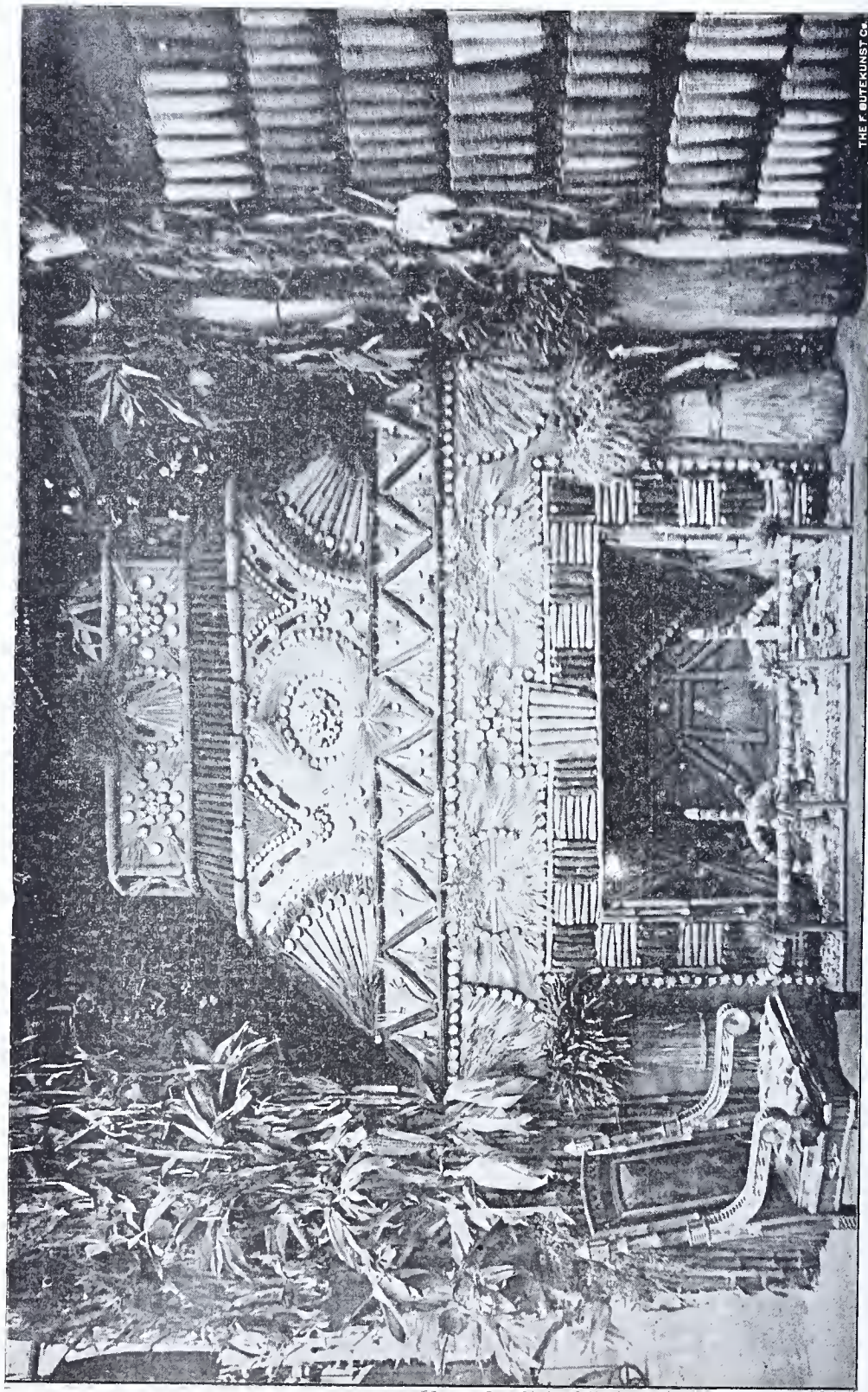
The State's exhibit of wool will be found in the north-western corner of the gallery of the Agricultural Building, and shows some of the fine wools for which the State is noted.

Dairy products properly belong in the Agricultural class but are in the Dairy Building especially arranged for this purpose and provided with refrigerating apparatus. Butter lovers will be interested in our State's handsome display located in the north-western corner of this building.







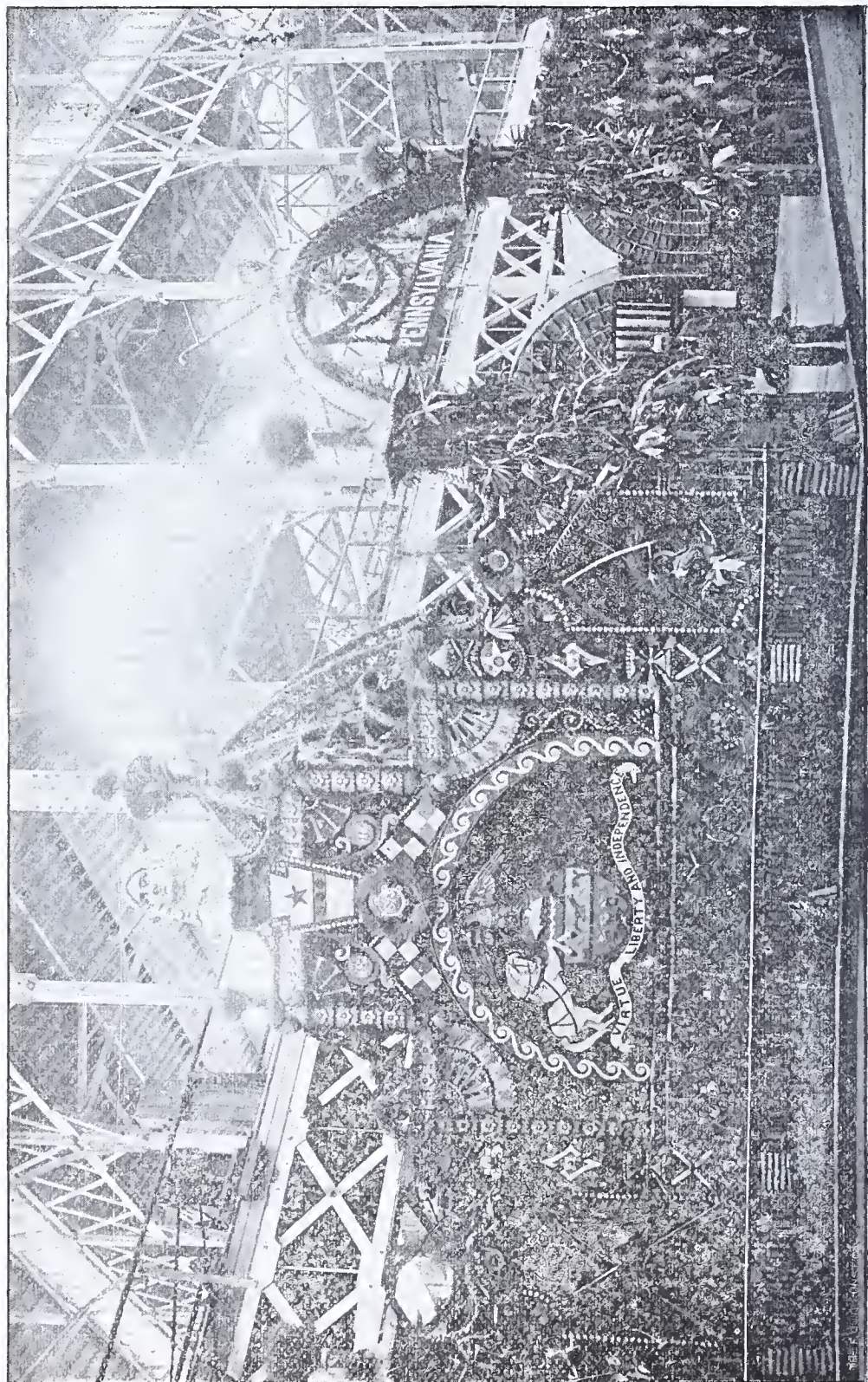


THE F. BUTERKUNST CO.

Fire Place and Chair made from Grain—Agricultural Exhibit.







Agriculture Exhibit.



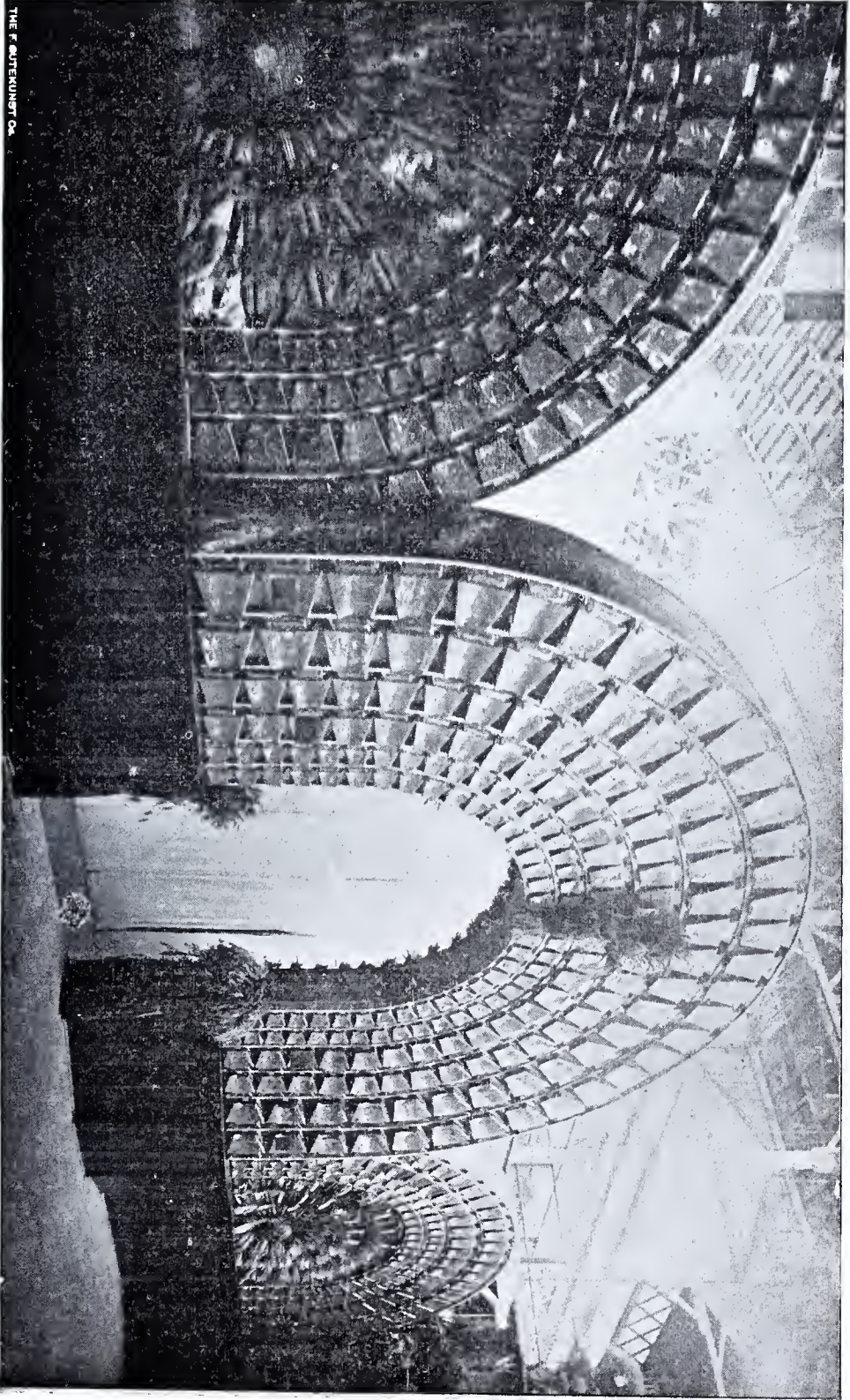


The Woman's Silk Culture Association of Philadelphia, (Agriculture Building).





THE F. AUTENUNST CO.



View in Agricultural Exhibit.





## DEPARTMENT A.

### AGRICULTURE, FOOD AND FOOD PRODUCTS, FARMING MACHINERY AND APPLIANCES.

The Agriculture Building is situated near the Southeasterly end of the grounds, and is almost completely surrounded by Lagoons. Machinery Hall is on its west and the Basin of the Court of Honor adjoins it on the North

The main portion of the Pennsylvania State Exhibit is situated in the center of the building at the junction of the two main aisles (Section C.) It is arranged in a most tasteful and artistic manner and makes one of the handsomest and most comprehensive exhibits in the building; as will be indicated by the following summary:—

#### GROUP I.

##### Cereals, Grasses and Forage Plants.

- |  |   |
|--|---|
| <p>1. <b>Aten, J. S.</b>, McMinn.<br/> <i>a.</i> Wheat.<br/> <i>b.</i> Corn.<br/> <i>c.</i> Oats.</p> <p>2. <b>Allegheny County Home</b>, Woodville.<br/> Wheat.</p> <p>3. <b>Amer, G. W.</b>, Bath.<br/> Rye.</p> <p>4. <b>Aten, H. A.</b>, Carnot.<br/> Wheat.</p> <p>5. <b>Baker, Thomas</b>, Octoraro.<br/> <i>a.</i> Wheat.<br/> <i>b.</i> Oats.</p> <p>6. <b>Battin, B. F.</b>, Greenwood.<br/> Buckwheat.</p> | <p>7. <b>Benninger, W. M.</b>, Walnutport.<br/> Wheat.</p> <p>8. <b>Bennison, S. H.</b>, Abdera.<br/> <i>a.</i> Wheat.<br/> <i>b.</i> Oats.<br/> <i>c.</i> Corn.</p> <p>9. <b>Bettleburger, D.</b>, Alburtis.<br/> Corn.</p> <p>10. <b>Beyer, Samuel</b>, Eyer's Grove.<br/> Oats.</p> <p>11. <b>Bierer, John L.</b>, Ft. Hunter.<br/> Wheat.</p> <p>12. <b>Bird, Charles</b>, Millview.<br/> Corn.</p> <p>13. <b>Bittenbender, E. Y.</b>, Alburtis.<br/> Corn.</p> |
|--|---|

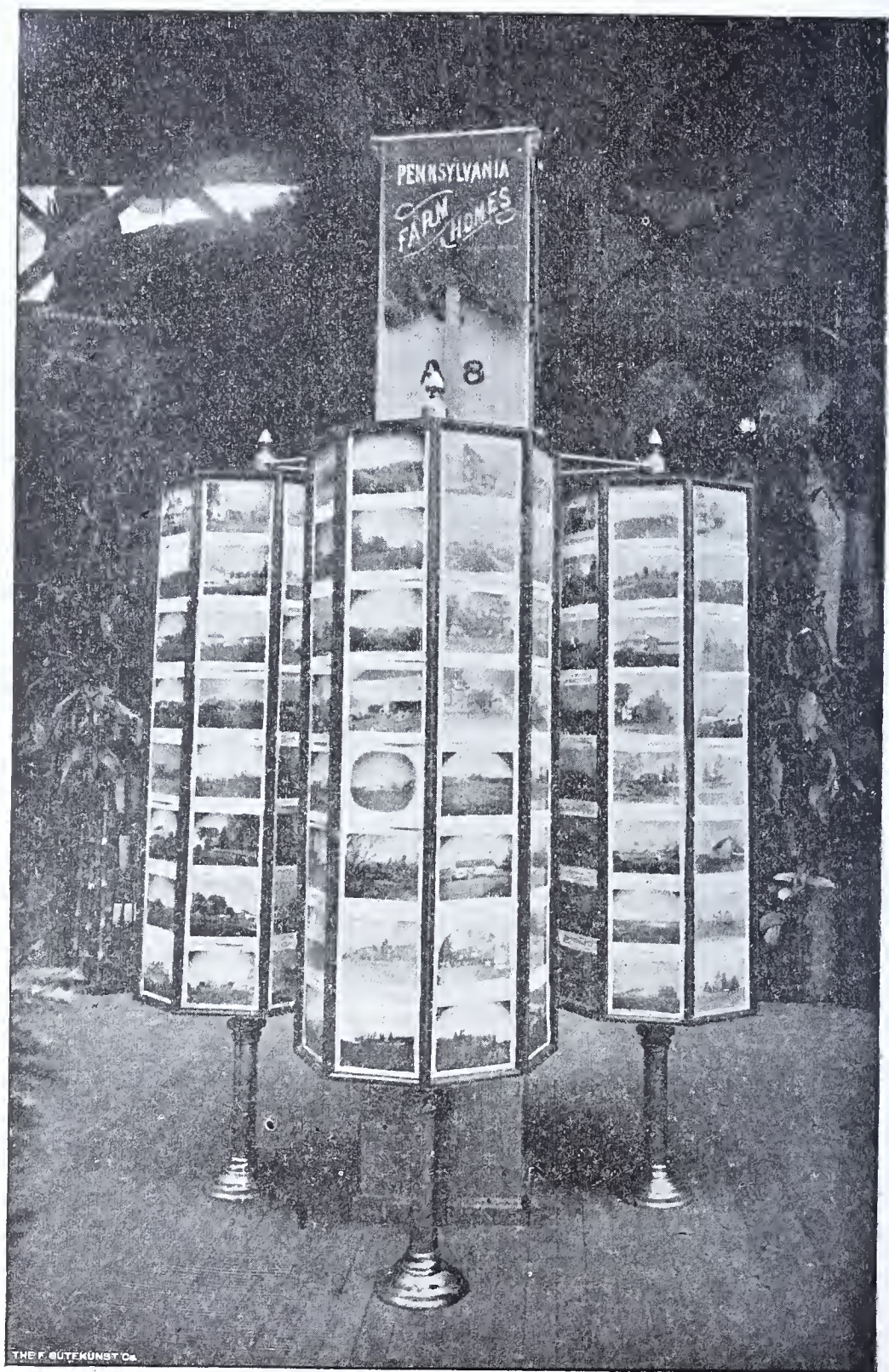
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| 14. Blackburn, William C., New Hope.<br>Wheat.  | 26. Cary, G. W., Locust Lane.<br>Wheat.  |
| 15. Blair, J. A., Bath.<br>Corn.  | 27. Clapp, Thomas L., Limestoneville.<br>Corn.                                       |
| 16. Blatt, B. F., Norrace.<br><i>a.</i> Wheat.<br><i>b.</i> Corn.   | 28. Clark, Wm. H., Oakdale Station.<br>Wheat.  |
| 17. Bohn, Edward K., Robesonia.<br><i>a.</i> Wheat.<br><i>b.</i> Oats.<br><i>c.</i> Corn.   | 29. Cloud, James, Oxford.<br>Corn.   |
| 18. Boose, A. J., Meyersdale.<br><i>a.</i> Wheat.<br><i>b.</i> Oats.<br><i>c.</i> Rye.  | 30. Cloud, James, Russelville.<br>Corn.  |
| 19. Bottorf, P. F., Pine Grove Mills.<br><i>a.</i> Wheat.<br><i>b.</i> Oats.<br><i>c.</i> Buckwheat.<br><i>d.</i> Flax-Seed.<br><i>e.</i> Corn. | 31. Comact, G. A., Springville.<br>Oats.   |
| 20. Branson, D. H., Atglen.<br><i>a.</i> Corn.<br><i>b.</i> Oats.   | 32. Comact, George W. Lynn.,<br>Wheat.   |
| 21. Brewer, Clayton J., McConnellsburg.<br>Wheat.   | 33. Conner, S. J., Berwick.<br><i>a.</i> Wheat.<br><i>b.</i> Oats.<br><i>c.</i> Rye. |
| 22. Brown, J. M., Butztown.<br><i>a.</i> Wheat.<br><i>b.</i> Oats.  | 34. Conrad, Robert, Soleburg.<br>Wheat.  |
| 23. Bunting, J. M., Glen Mills.<br>Corn.  | 35. Cooper, Michael H.,<br>Oats.   |
| 24. Burpee & Co., W. A., Philadelphia.<br>Corn.   | 36. Dale, A. P., Oil City.<br>Rye.   |
| 25. Calvin H. H., Dalton.<br><i>a.</i> Corn.<br><i>b.</i> Rye.<br><i>c.</i> Buckwheat.  | 37. Dean, M. B., Dalton,<br>Oats.  |
|   | 38. DeMatt, Cyrus, Millville..<br>Corn.  |
|   | 39. Derr, Jacob, Millville.<br>Rye.  |
|   | 40. Dust, George, Centre Hall.<br>Wheat.   |
|   | 41. Eckert, Wm., Robesonia.<br>Corn.   |
|   | 42. Engle & Son, H. M., Marietta.<br>Corn.   |

43. **Evans, Francis**, Brandywine Summit.  
Wheat.
44. **Evans, Samuel**, Swarthmore.  
Wheat.
45. **Everhart, John**, Franklinville.  
*a.* Wheat.  
*b.* Oats.
46. **Everhart, John**, Stormstown.  
Corn.
47. **Fansolo, David**, Sunbury.  
*a.* Wheat.  
*b.* Oats.  
*c.* Corn.
48. **Faucett, Henry**, Dilworthtown.  
*a.* Wheat.  
*b.* Corn.
49. **Fouse, B. B.**, Huntingdon.  
Wheat.
50. **Fervis, O. F.**, Berwick.  
Oats.
51. **Fink, Daniel F.**, Allentown.  
*a.* Wheat.  
*b.* Oats.  
*c.* Rye.
52. **Fitch, John**, Falls.  
Corn.
53. **Forney, M. J.** East Petersburg.  
Rye.
54. **Frain, Isaac S.** Abdera.  
*a.* Oats.  
*b.* Corn.  
*c.* Wheat.
55. **Fulleroff, Howard**, Centre Hall.  
Corn.
56. **Garrett, Wm. S.** Chadd's Ford.  
Corn.
57. **Gates, Luther, & Son**, Beaver Centre.  
Wheat.
58. **Gibson, John M.** Blairsville.  
*a.* Wheat.  
*b.* Corn.  
*c.* Oats.
59. **Gibson, Michael**, Mansfield.  
Oats.
60. **Glatt, John**, Chadd's Ford.  
Corn.
61. **Gravell, David**, Upper Providence.  
Wheat.
62. **Greider, M. G.** Mount Joy.  
*a.* Wheat.  
*b.* Oats.  
*c.* Corn.  
*d.* Timothy-seed.  
*e.* Clover-seed.  
*f.* Buckwheat.
63. **Grove, J. S.** Tionesta.  
Corn.
64. **Habersett J. P.** Knowlton.  
*a.* Wheat.  
*b.* Corn.
65. **Haggerty, L. M.** Huntingdon.  
*a.* Corn.  
*b.* Rye.
66. **Hannon, Miles F.** Concordville.  
*a.* Corn.
67. **Harnish, Peter K.** Huntingdon.  
Wheat.
68. **Harnish, W. H.** Huntingdon.  
*a.* Oats.  
*b.* Wheat.
69. **Harvey, Abram**, Brandywine Summit.  
Corn.

70. **Harvey, Ralph**, Ward.  
*a.* Wheat.  
*b.* Corn.
71. **Haversett, Edmona**, Mt. Alverno.  
*a.* Corn.  
*b.* Wheat.
72. **Heed, John C.** West<sup>1</sup> Chester.  
Corn.
73. **Heil, J. D.** Broadhead.  
Barley.
74. **Heister, Gabriel**, Harrisburg.  
Wheat.
75. **Herr, J. A.** Cedar Springs.  
Corn.
76. **Herrill, Wm. A.** Federal.  
Wheat.
77. **Hess, Jacob W.** Oregon.  
Wheat.
78. **Hess, W.** Gap.  
Corn.
79. **Heyburn, C. R.** Camp Ground.  
Corn.
80. **Heyburn, Geo. E.** Chadds Ford.  
Wheat.
81. **Heyburn, M. S.** Brandywine Summit.  
Corn.
82. **Hileman, David**, Huntingdon.  
*a.* Wheat.  
*b.* Corn.
83. **Hoffman, Peter**, Scalp Level.  
*a.* Wheat.  
*b.* Oats.  
*c.* Buckwheat.
84. **Hoy, H. K.** Bellefonte.  
Wheat.
85. **Huber, David B.** Neffsville.  
Oats.
86. **Hunter, J. A.**, Stormstown.  
Corn.
87. **Hurley, Wm. W.**, New Hope.  
Wheat.
88. **Inscho, W. W.**, Canoe Camp.  
Buckwheat.
89. **Jemkin, Joseph**, Mercer.  
*a.* Corn.  
*b.* Oats.
90. **Jordan, Bros.**, Federal.  
Wheat.
91. **Katterson, J. L.**, Pleasant View.  
Wheat.
92. **Kemmer, J. W.**, Nazareth.  
Wheat.
93. **Kendall, W. A.**, [McConnellsburg].  
*a.* Corn.  
*b.* Timothy seed.
94. **Kerstella, — —** Oil City.  
Rye.
95. **Kester, N.**, Mardensville.  
Corn.
96. **King, Geo. D.**, Chadd's Ford Junction.  
Corn.
97. **Knapp, C. F.**, Falls.  
Oats.
98. **Lancaster, L. D.**, Chadd's Ford.  
Corn.
99. **Landis, Henry K.**, Lancaster.  
Wheat.
100. **Lanesburg, John**, Canoe Camp.  
Corn.
101. **Leshner, John**, Reamstown.  
Corn.
102. **Lussey, S. E.**, Hollidaysburg.  
Corn.





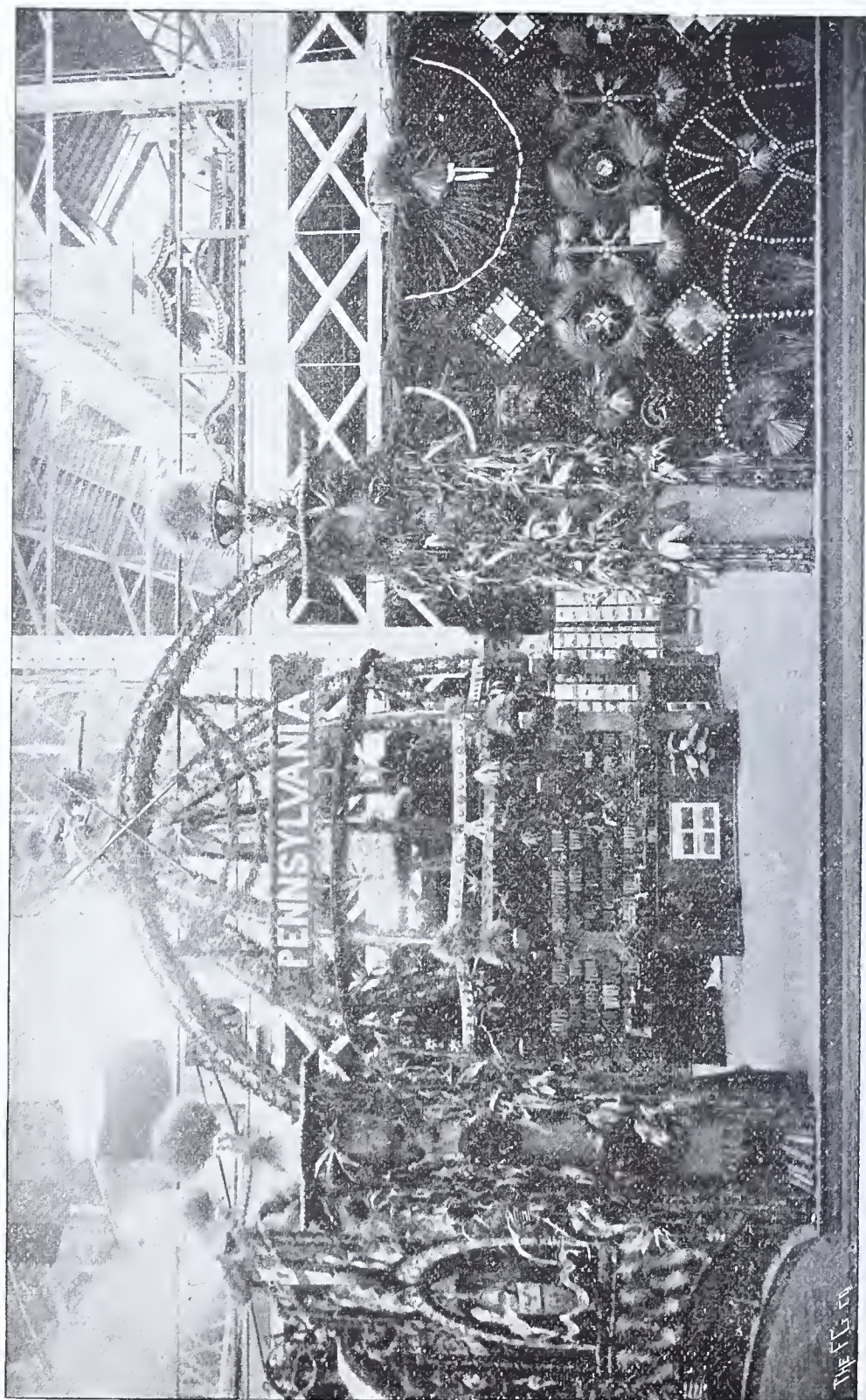


THE F. GUTKUNST Co.

View in Agricultural Exhibit.







Agriculture Exhibit,



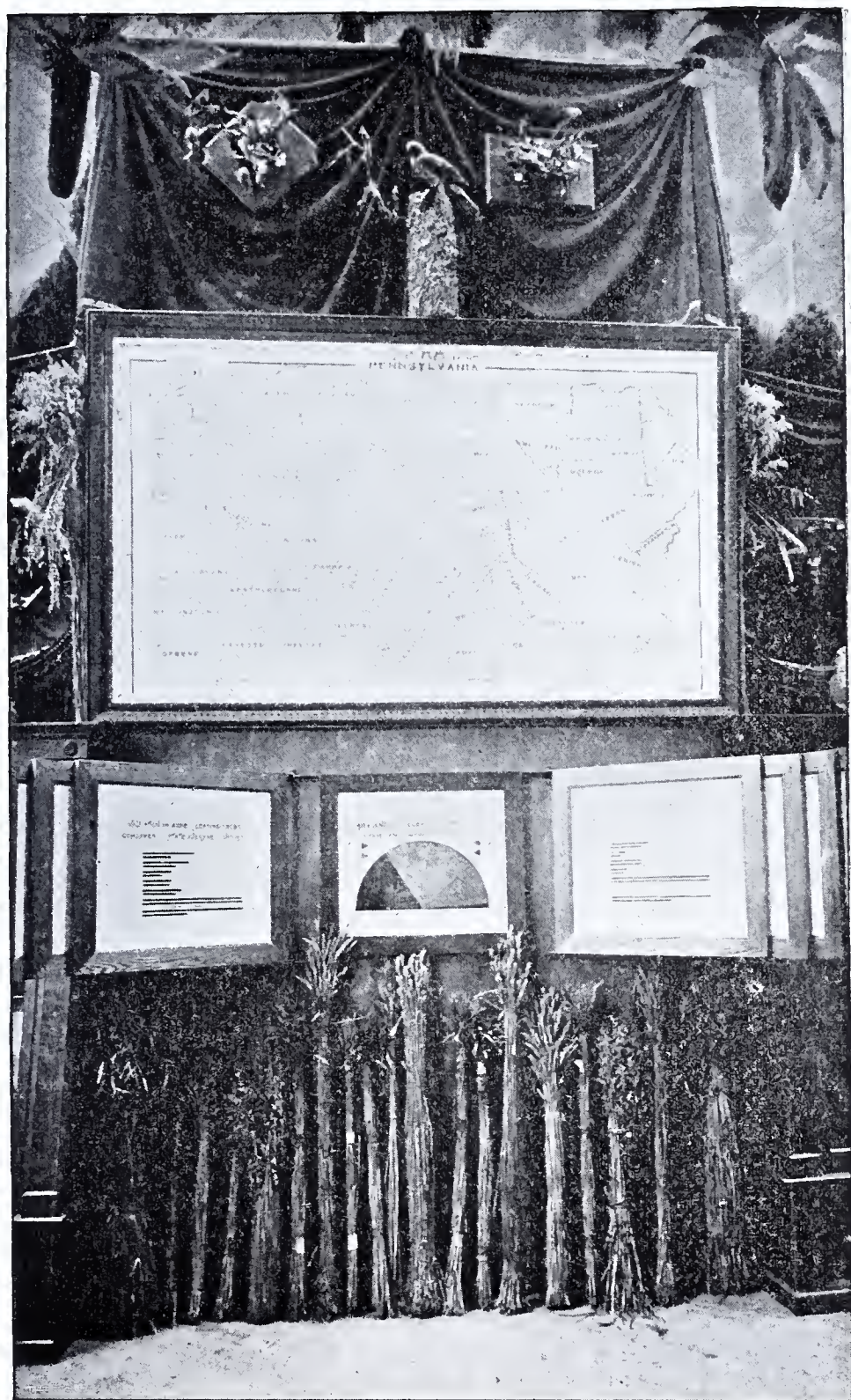


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Corn on the Ear, etc.—Agriculture Exhibit.







Agriculture Exhibit—Statistics, etc.—Interior View.

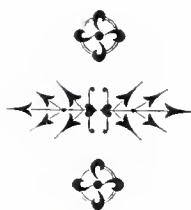




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| <p>103. <b>McFarren, James G.,</b> Furniss.<br/> <i>a.</i> Wheat.<br/> <i>b.</i> Oats.</p> <p>104. <b>McClure, B. B.,</b> Bath.<br/> <i>a.</i> Wheat.<br/> <i>b.</i> Corn.</p> <p>105. <b>McGrann, J. G.,</b> Newry.<br/> <i>a.</i> Wheat.<br/> <i>b.</i> Corn.<br/> <i>c.</i> Oats.<br/> <i>d.</i> Buckwheat.</p> <p>106. <b>McMan, J. J.,</b> Cheney.<br/>         Corn.</p> <p>107. <b>McNary, J. R.,</b> Burgettstown.<br/>         Wheat.</p> <p>108. <b>Madaro, Amos D.</b> Robesonia.<br/>         Oats.</p> <p>109. <b>Martin, Wm. J.</b> Catawissa.<br/>         Wheat.</p> <p>110. <b>Mather, H. E.</b> Greenwood.<br/>         Corn.</p> <p>111. <b>Meyer &amp; Heillinger,</b> Lancaster.<br/>         Corn.</p> <p>112. <b>Menger, J. G.</b> Mill City.<br/>         Corn.</p> <p>113. <b>Miller, Henry J.</b> Catawissa.<br/> <i>a.</i> Wheat.<br/> <i>b.</i> Corn.<br/> <i>c.</i> Oats.<br/> <i>d.</i> Rye.<br/> <i>e.</i> Buckwheat.</p> <p>114. <b>Miller, John,</b> Brandywine.<br/>         Wheat.</p> <p>115. <b>Miller, John,</b> Frankstown.<br/>         Rye.</p> <p>116. <b>Molyneth, J. S.</b> Millview.<br/>         Wheat.</p> | <p>117. <b>Naginey, M. M.</b> Milroy.<br/> <i>a.</i> Corn.<br/> <i>b.</i> Oats.<br/> <i>c.</i> Rye.<br/> <i>d.</i> Timothy seed.<br/> <i>e.</i> Wheat.<br/> <i>f.</i> Clover seed.</p> <p>118. <b>Neff, D. G.</b> Alexandria.<br/>         Corn.</p> <p>119. <b>Neff, J. C.</b> Petersburg.<br/>         Corn.</p> <p>120. <b>Nesbit, W. H.</b> Milton,<br/> <i>a.</i> Corn.<br/> <i>b.</i> Oats.</p> <p>121. <b>Nichols, John,</b> Brandenville.<br/> <i>a.</i> Wheat.<br/> <i>b.</i> Corn.</p> <p>122. <b>Packer, J. A.</b> Lock Haven.<br/>         Corn.</p> <p>123. <b>Patterson, W. C.</b> McConnells-<br/>         burg.<br/>         Timothy seed.</p> <p>124. <b>Patterson, W. C.</b> State College.<br/> <i>a.</i> Wheat.<br/> <i>b.</i> Oats.</p> <p>125. <b>Piper, D. G.</b> Locust Lane.<br/>         Wheat.</p> <p>126. <b>Pitts, John F.</b> Mansfield.<br/>         Wheat.</p> <p>127. <b>Porter, Wm. A.</b> Franklinville.<br/> <i>a.</i> Wheat.<br/> <i>b.</i> Corn.<br/> <i>c.</i> Oats.</p> <p>128. <b>Réam, Henry,</b> Neffsville.<br/>         Rye.</p> <p>129. <b>Reeder, E.,</b> New Hope.<br/> <i>a.</i> Corn.<br/> <i>b.</i> Oats.</p> |
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| 130. Reese, Wm. Greenwood.<br>Corn.  | 145. Sherwood, G. W., Falls.<br><i>a.</i> Wheat.<br><i>b.</i> Oats.<br><i>c.</i> Corn.<br><i>d.</i> Buckwheat. |
| 131. Robinson, Chas. Mercer.<br>Corn.  | 146. Shivery, D. H., Bellefonte.<br>Barley.  |
| 132. Robinson, Wm. M. Moores-<br>burg.<br><i>a.</i> Corn.<br><i>b.</i> Buckwheat.        | 147. Smith, Casper, Farmer's Val-<br>ley.<br>Corn.   |
| 133. Robb, John D. Oakdale Sta-<br>tion.<br>Wheat.                                       | 148. Sinsenberger, Grant, East<br>Freedom.<br>Corn.  |
| 134. Rosenkraus, Annie, Bard<br>Mount.<br>Wheat.   | 149. Smith, Joel, Glenburn.<br>Oats.   |
| 135. Rothrock, David, Bellefonte,<br><i>a.</i> Wheat.<br><i>b.</i> Oats.                 | 150. Smith, S. W., Centre Hall.<br>Oats.   |
| 136. Rupp, H. S. Shiremanstown.<br><i>a.</i> Wheat.<br><i>b.</i> Oats.<br><i>c.</i> Rye. | 151. Snowberger, J. B., McKee's<br>Gap.<br>Corn.   |
| 137. Schall, W. L. West Newton.<br><i>a.</i> Wheat.<br><i>b.</i> Corn.                   | 152. Snyder, H. W., Mockeysville.<br>Corn.   |
| 138. Schweitzer, R. T. Bethlehem.<br>Oats.   | 153. Snyder, G. S., Middleburg.<br><i>a.</i> Wheat.<br><i>b.</i> Corn.   |
| 139. Scott, Alexander, Concord-<br>ville.<br>Wheat.                                      | 154. State College, Bellefonte.<br><i>a.</i> Wheat.<br><i>b.</i> Corn.<br><i>c.</i> Oats.                      |
| 140. Seal, Howard E. Chadd's Ford.<br>Corn.  | 155. Thatcher, Howard, Brandy-<br>wine Summit.<br><i>a.</i> Wheat.<br><i>b.</i> Corn.                          |
| 141. Shaw, Aaron, Neffsville.<br>Oats.   | 156. Thompson, E. A., Beech Cliff.<br>Wheat.   |
| 142. Seat, Howard E. Chadd's Ford<br>Junction.<br>Corn.                                  | 157. Tussey, A. C., Hollidaysburg.<br>Wheat.   |
| 143. Shamapelt, Wm. Brinkerton.<br>Corn.   |  |
| 144. Shannafelt, Wm. Brinkerton.<br>Wheat.   |  |

158. **U. S. Indian School, Carlisle.**  
*a.* Wheat.  
*b.* Corn.  
*c.* Oats.
159. **Walter, Reno, Mifflinburg.**  
Wheat.
160. **Warman, Thos., Bath.**  
*a.* Corn.  
*b.* Buckwheat.
161. **Weimer, Peter, Wittenberg.**  
Buckwheat.
162. **Weed, Wm. & Sons, Sugar Grove.**  
Wheat.
163. **Wolfe, John, Rebersburg.**  
Wheat.
164. **Wilson, Samuel, Mechanicsville.**  
*a.* Rye.  
*b.* Millet.
165. **Woodbridge, J. A., Dalton.**  
Oats.
166. **Young, A. P., Millville.**  
*a.* Wheat.  
*b.* Corn.  
*c.* Oats.
167. **Young, J. W., Romola.**  
Oats.
168. **Zeigler, John W., Rebersburg.**  
Wheat.
169. **Zeisenheim, C., Girard.**  
*a.* Oats.  
*b.* Barley.  
*c.* Rye.



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**OFFICIAL GROUP 7.****The Dairy and Dairy Products.**

The Dairy Building is situated in the southeastern part of the grounds, north of the Anthropological and west of the Forestry and Leather Buildings. The building is small and Pennsylvania's Exhibit will be easily found, it being one of the most prominent there. The following are the exhibitors of butter and butter-making :

CLASS 2. Butter made by exhibitor on the farm from a herd of one breed.

1. **R. S. Hartley**, Freehold, Pa.

Tub-butter (Manufactured June 28th), weight 15 pounds.

CLASS 4. Creamery-butter made by exhibitor from the milk of mixed herds, from cream separated from the milk in the creamery where the butter is made.

1. **John C. McClintock**, Meadville, Pa.

Fancy Print (Manufactured July 1st), weight 12 pounds.

2. **Pennsylvania State College Experiment Station.**

Tub-butter (Manufactured June 29th), weight 55 pounds.

3. **I. S. Lavery**, Lavery, Pa.

Tub-butter (Manufactured July 1st), weight 55 pounds.

4.       "                               "                               "

5. **Corry Creamery**, Corry, Pa.

Tub-butter (Manufactured June 30th), weight 55 pounds.

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**GROUP 9 (Class 60).****Wool in the Fleece.**

There are 26 fleeces exhibited, detailed information in regard to which is given on the opposite page. (Location, N. W. corner of gallery, Agriculture Building).



EXHIBITOR.	ADDRESS.	Sex of Animal.	BREEDING OF ANIMAL.	Age of Animal.	Date of Shearing.	Weights of Animal after Shearing.	Age of Pleece in Days.	Gross Weight of Pleece at date of Shearing.
1. Mrs. James L. Jams,	Swartz, Green Co., Pa.,	Ewe,	Delaine Merino,	2 years,	June 9,	85	365	9½ lbs.
2. James McClellan,	Cannonsburg, Pa.,	Ram,	National Delaine,	2 "	April 1,	160	365	17 "
3. "	"	"	"	2 "	"	165	365	16 "
4. "	"	Ewe,	"	2 "	"	110	365	10 "
5. "	"	"	"	2 "	"	110	365	10 "
6. "	"	"	"	2 "	"	110	365	10 "
7. James S. McNary,	"	Ram,	"	2 "	April 6,	145	367	15 "
8. "	"	"	"	3 "	"	160	367	16 "
9. "	"	"	"	4 "	"	165	367	14 "
10. Wm. A. Herriot,	Federal, Pa.,	Ewe,	Thor'd Merino,	270 days	April 1,	60	270	
11. "	"	Ram,	"	2 years,	"	160	355	
12. "	"	Ewe,	"	2 "	"	110	300	
13. C. H. Beall,	Independence, Pa.,	Ram,	Delaine	2 "	"		1 yrs' growth	
14. "	"	"	"					
15. "	"	"	"					
16. Lee R. Scott,	S. Burgettstown, Pa.,	Ewe,	Pure Bred	1 year,	April 26,	60	406	8 lbs. 4 oz.
17. "	"	Ram,	"	1 "	April 12,	95	397	10 lbs.
18. "	"	"	"	2 years,	"	135	373	12 " 8 oz.
19. James Glass,	"	"	Atwood	340 days	April 17,	85	340	12½ lbs.
20. "	"	"	"	7 years,	"	80	350	8½ "
21. "	"	Ewe,	"	3 "	"	90	355	14½ "
22. "	"	"	"	2 "	"	85	355	14½ "
23. Wm. A. Herriot,	Federal, Pa.,	Ram.						
24. "	"	Ewe.						
25. "	"	Ram.						
26. "	"	Lamb.						

## GROUP 48.

The following are the exhibitors of Tobacco in the leaf, and Tobacco **not** manufactured (Location, Section C—with main Exhibit):

<i>Name.</i>	<i>Address.</i>
Samuel Martin .....	Muddy Creek Forks, York Co., Penna.
John M. Dolby .....	Coatesville,, Chester Co., Penna..
Henry Charles .....	Conestoga, Centre Co., Penna..
D. D. Burkholder .....	Lititz, Lancaster Co., Penna..
John B. Reist .....	Manheim, Lancaster Co., Penna..
J. H. Bennetch .....	Millbach,, Lebanon Co., Penna..
David Layser .....	Millbach,, Lebanon Co., Penna..
Edward Schmaltz .....	Richmond Station, Lebanon Co., Penna..
H. L. Illig & Bro. ....	Millbach, Lebanon Co., Penna..
E. R. Illig .....	Millbach, Lebanon Co., Penna..
F. K. Hain .....	Klinefeltersville, Lebanon Co., Penna..
George Z. Poyer .....	Millbach, Lebanon Co., Penna..
Daniel Paul .....	Salona, Clinton Co., Penna..
Wm. M. Johnson .....	Lock Haven, Clinton Co., Penna..
F. T. Rayhorn .....	Woolrich, Clinton Co., Penna..
James Rush .....	Jersey Shore, Lycoming Co., Penna..
Andrew Hunt .....	Abdera, Clinton Co., Penna..
R. H. Stewart .....	Island,, Clinton Co., Penna..
Carskaddens & Propst .....	Lock Haven, Clinton Co., Penna..
John Wise .....	Island,, Clinton Co., Penna..
A. R. Hamilton .....	Chatham Run, Clinton Co., Penna..
Jesse Gilbert .....	Airville, York Co., Penna..

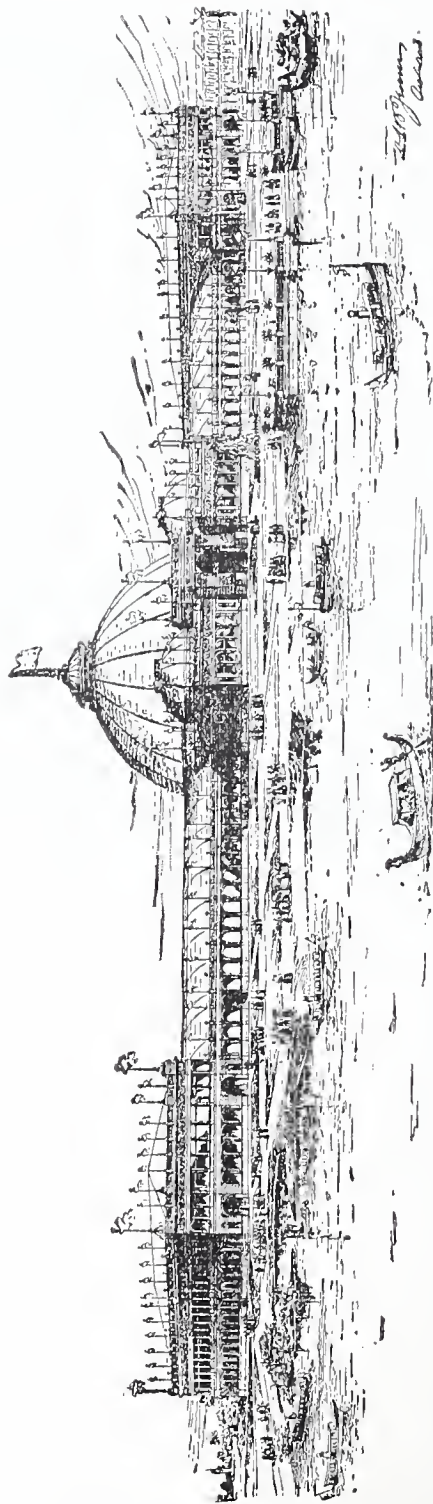


## DEPARTMENT B.



HORTICULTURE, VITICULTURE, POMOLOGY,  
FLORICULTURE, Etc.

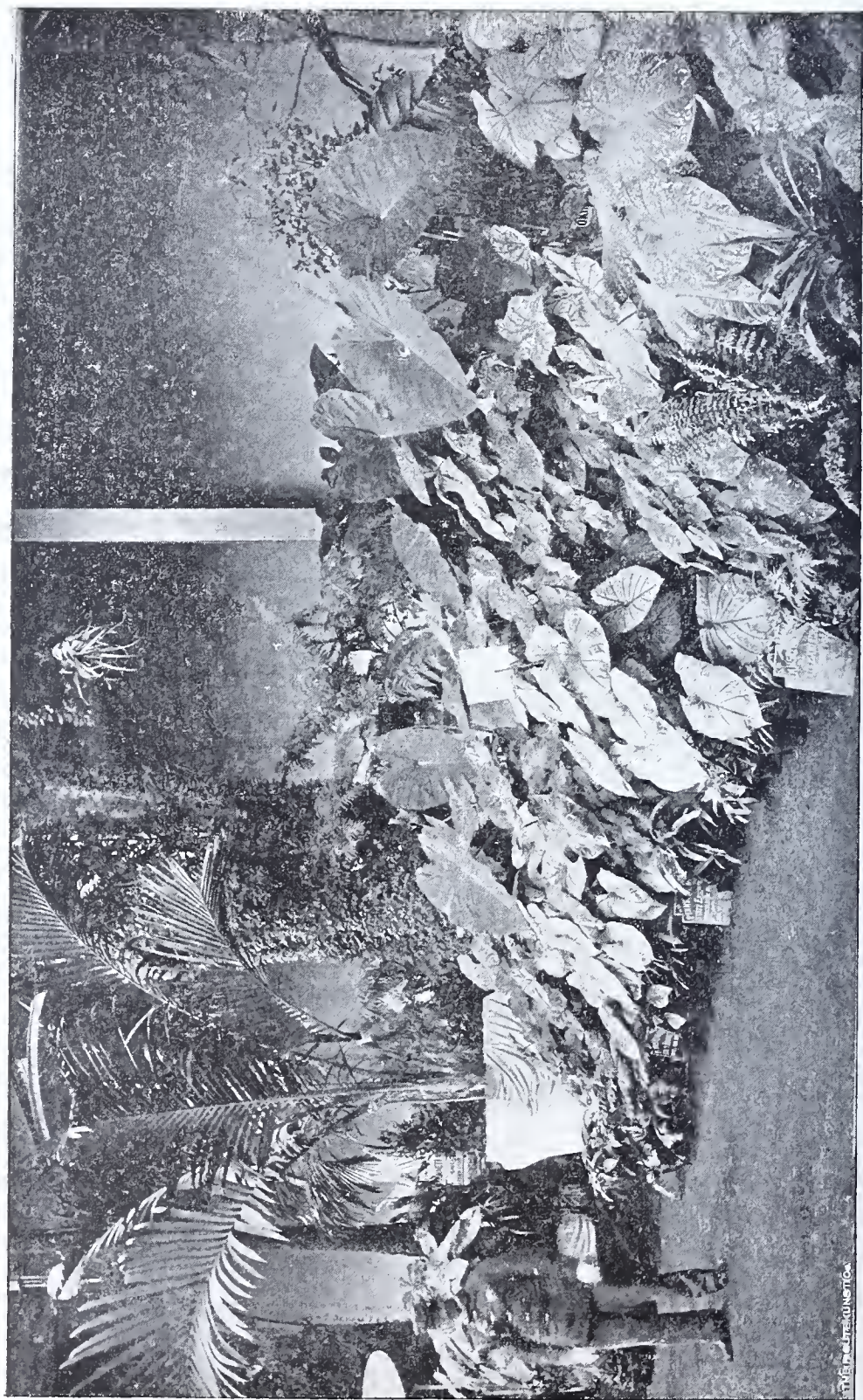




THE HORTICULTURAL BUILDING.







View in Rotunda of Horticulture Building—Portion of Pennsylvania Exhibit.



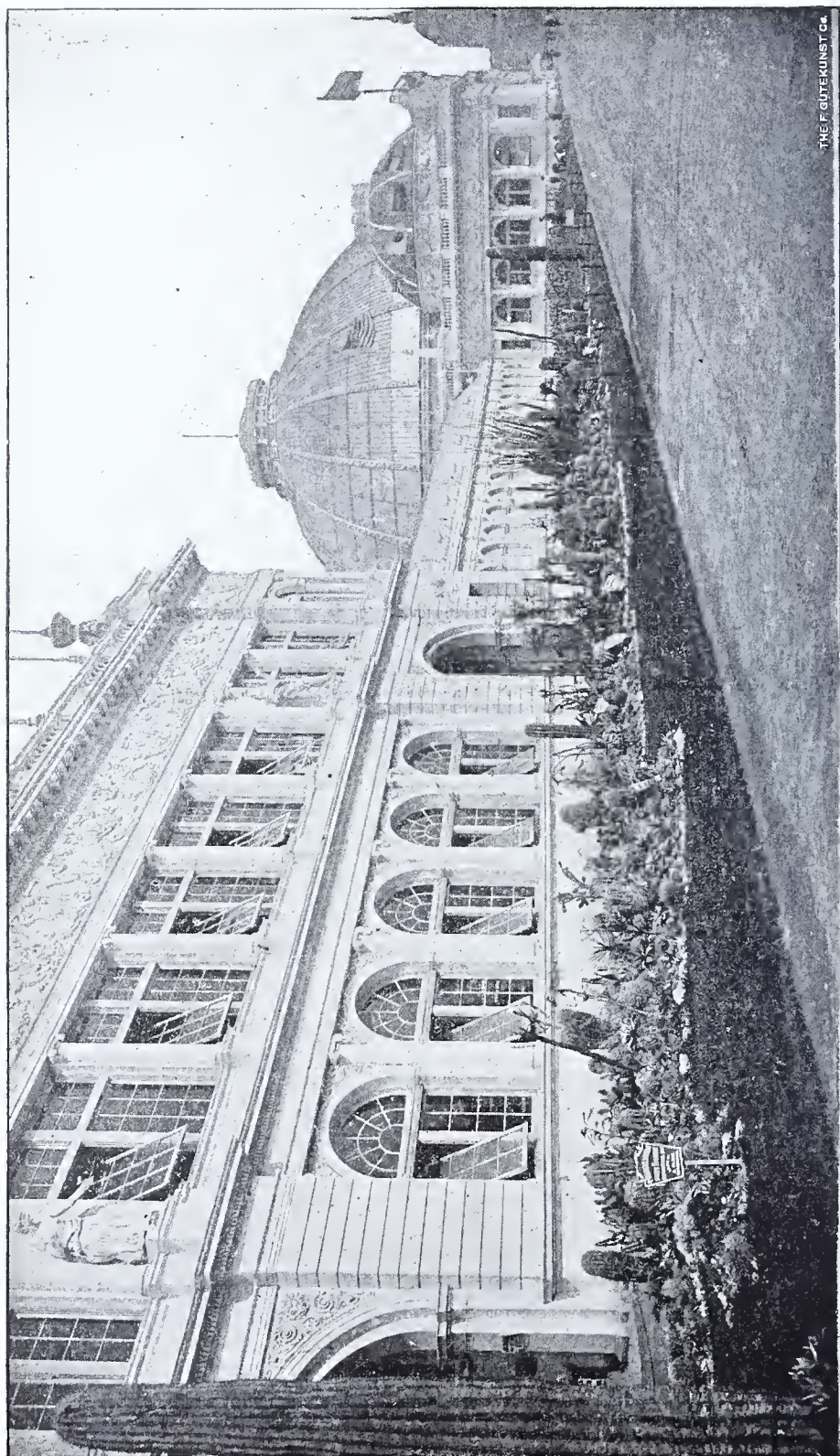




Horticultural Exhibit—South Curtain.







THE F. GUTKUNST CO.

Portion of Lawn Exhibit—East of Horticulture Building.



## DEPARTMENT B.

### Horticulture, Viticulture, Pomology, Floriculture, etc.

The Horticulture Building is situated on the westerly side of the Park, just south of the entrance to the Midway Plaisance; it faces the lagoon on the east.

The State exhibits are located (A) in the Central Dome, (B) on the easterly side of central curtain, south of the Dome, (C) on the lawn to the east of the building near north and south ends, (D) in the south-west corner of the building (A-3, A-12); (E) in the gallery north-west corner (B-8o.)

### FLORICULTURAL EXHIBIT.

The exhibits of Palms and other Exotic Decorative plants occupy one third of the space around the Mountain, under the Dome of Horticultural Hall; on the East and South sides; also, over 2,000 feet in the South curtain and contains a very extensive and valuable collection. Many fine specimens are loaned by Mr. G. W. Childs, of Philadelphia; A. J. Drexel, Philadelphia; Mrs. Chas. Wheeler, Bryn Mawr, Pa.; Chas. Dissel, Wynnewood, Pa.; Chas. Clark, Pittsburgh; Capt. Vandergrift, Pittsburgh; Mrs. Henry Tilge, Germantown, Pa.; Allegheny Park, Allegheny, Pa.; Girard College, Pa. These exhibits from amateurs are valued at over \$25,000. There are also extensive Trade Exhibits, from Robert Craig, Philadelphia, (value \$7,500); H. A. Dreer, Philadelphia, (value \$5,000); A. Blanc, Collector of Cacti, (value \$5,000), and a small but valuable collection of rare plants from C. Eisle, Philadelphia. As a whole the Exhibit from Pennsylvania, is the largest and most valuable of the State Exhibits. The collection of Fancy Caladiums from Geo. W. Childs, Philadelphia, is the largest and finest ever exhibited in the world and covers a space of 1,500 square feet. In the Department Greenhouses, 3,000 square feet are occupied with New Varieties of French Cannas, Tuberous Begonias, Gloxinies, Lilies and other flowering plants, which have been started at intervals and are brought into Horticultural Hall from time to time, to keep up the interest in the State display until the close of the Exhibition.

### THE CANNA DISPLAY.

The most interesting feature of the out-door display is the Exhibit of French Cannas in the large plot, 600 feet by 70 feet, in front of Horticultural Hall on the north-east. This Exhibit was made after repeated consultations with John Thorpe, the Chief of Floriculture, of the World's Fair, and the decision was arrived at, that a display of this kind would be more interesting than any other display that could be made; as the improvements in this class of plants, during the last decade, are the most notable of any in the entire list of out-door, summer-flowering plants. The varieties shown include the following, planted in beds containing from one hundred to one hundred and twenty-five plants each. One half of this plot is planted by H. A. Dreer, of Philadelphia; the other by Robt. Craig, Philadelphia.

Geo. W. Childs.	Alphonse Bouvier.
Florence Vaughan.	Madam Potter, (New American
Egandale.	Seedling).
Explorateur Crampbell.	M. Crozy.
J. C. Vaughan.	Statuaire Falconis.
Secretary Stewart.	Edward Michel.
Miss S. Hill.	Enfant des Rhone.
Secrétaire Nicholas.	Baron de Renowardy.
H. A. Dreer.	Captaine P. Suzzonu.
Gustave Semholz.	Duchess de Montenarl.
J. L. Cabos.	

The following New Cannas are also shown in pots in Horticultural Hall. Twelve plants of each variety, by Robt. Craig.

Admiral Gervaise.	J. C. Vaughan.
Cronstadt.	Secretary Stewart.
Paul Bruant.	Egandale.
Marquise A de L'Aigle.	Nardy Pere.
Paul Marquant.	Dr. Bergalot.
Florence Vaughan.	Star of '91.
Gustave Semholz.	Geoffrey St. Hillaire.
Explorateur Crampbell.	

### THE CACTUS DISPLAY.

Occupies two plots, each 150 feet by 30 feet in front of Horticultural Hall at the extreme North and South ends. In this collection are over

50	varieties of Cereus,
60	" " Echinocactus.
50	" " Mamillarias,
40	" " Phyllocactus,

and many other species and varieties, in all over four hundred varieties, constituting the largest display of these curious and interesting plants ever made. Loaned by A. Blanc & Co., Philadelphia.

A fine display of Roses from Geo. Craig, Philadelphia, is also made on the "Wooded Island."

The following is a short list of the flowers, plants, etc., classified according to the official groups:

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### OFFICIAL GROUP 20.

#### Viticulture, Manufactured Products, Methods and Appliances.

1. Class 122. Grapes for the table.
2. Class 123. Grapes for wine making.
3. Class 126. White Wines, dry.
4. Class 127. Red Wines, dry.
5. Class 128. Sweet Wines.
6. Class 131. Brandy.

(Location south-west corner, A-3).

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### GROUP 21.

#### Pomology, Manufactured Products-Methods and Appliances.

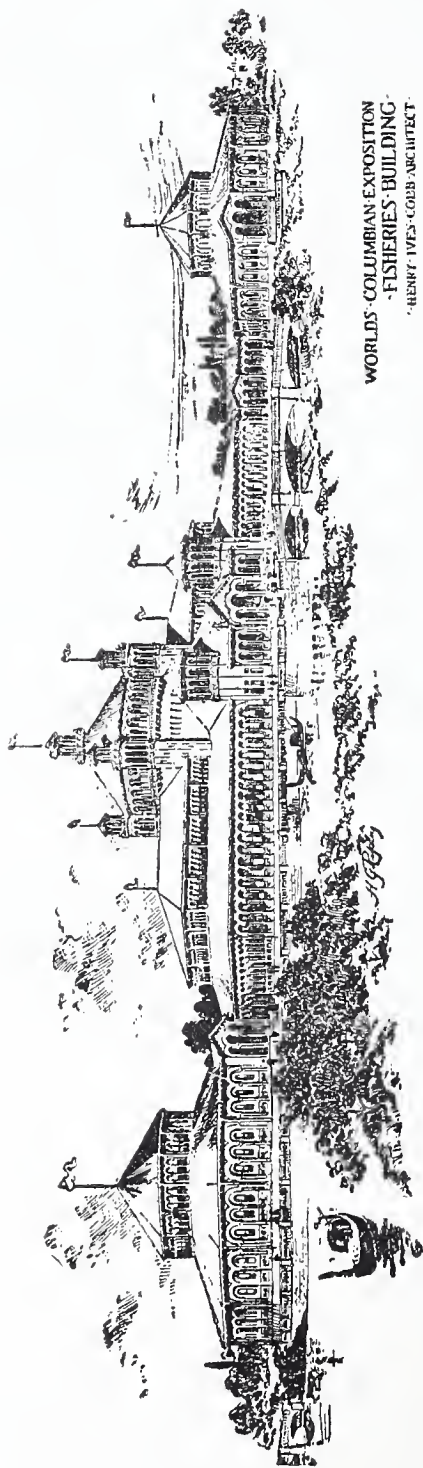
1. Class 133. Fruits (A-12)
2. Class 140. Canned Fruits (Gal. B-80).

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### GROUP 22.

#### Floriculture.

1. Class 155. Flowers, etc., loaned by Robert Craig, Philadelphia, (corridor, south of dome.)
2. Class 159. } Palms, Ferns, Fancy leaved Caladiums, Lilies, etc.,  
and } loaned by Geo. W. Childs, Bryn Mawr, and A.
3. Class 160. } J. Drexel, Lansdowne. (Dome).
4. Class 166. Plants, etc., loaned by Capt. Vandergrift. (Dome).
5. Class 171. Plants, loaned by L. Blanc, Philadelphia. (Dome and Lawn).



WORLD'S COLUMBIAN EXPOSITION  
FISHERIES BUILDING  
HENRY IVES COBB ARCHTCT.

### THE FISHERIES' EXHIBIT.

The exhibit of the Pennsylvania Fish Commission is located on the main aisle at the entrance from the Arcade, in the western annex of the Fisheries' Building, the space allotted to it being in the shape of a kite, and containing 1,701 square feet. Twenty aquaria of different sizes, constructed of iron and French plate glass, the largest being 6 feet x 3 x 3, are placed in the form of a horse shoe, and so arranged that the fish can be seen to the best advantage. The entrance is at the small end of the kite and is encircled by a splendid arch, the keystone in the center being typical of the State it represents. Its pillars appear like solid trees, so closely does the hemlock bark cling to them. Very fine photographic views, handsomely framed, of the several State Fish Hatcheries adorn the columns, and on the inner circle hang beautiful original water-color drawings of fishes indigenous, and introduced, to Pennsylvania waters. The magnificent arch is frescoed by panels of oak bark and twisted and gnarled laurel roots. The walls of the exhibit are formed of the outer growth of young cork trees, and the arrangement of the rough bark is much admired for its studied oddity. Bright plants in rustic pockets, most refreshing in their greenness, add additional beauty to this outer wall.

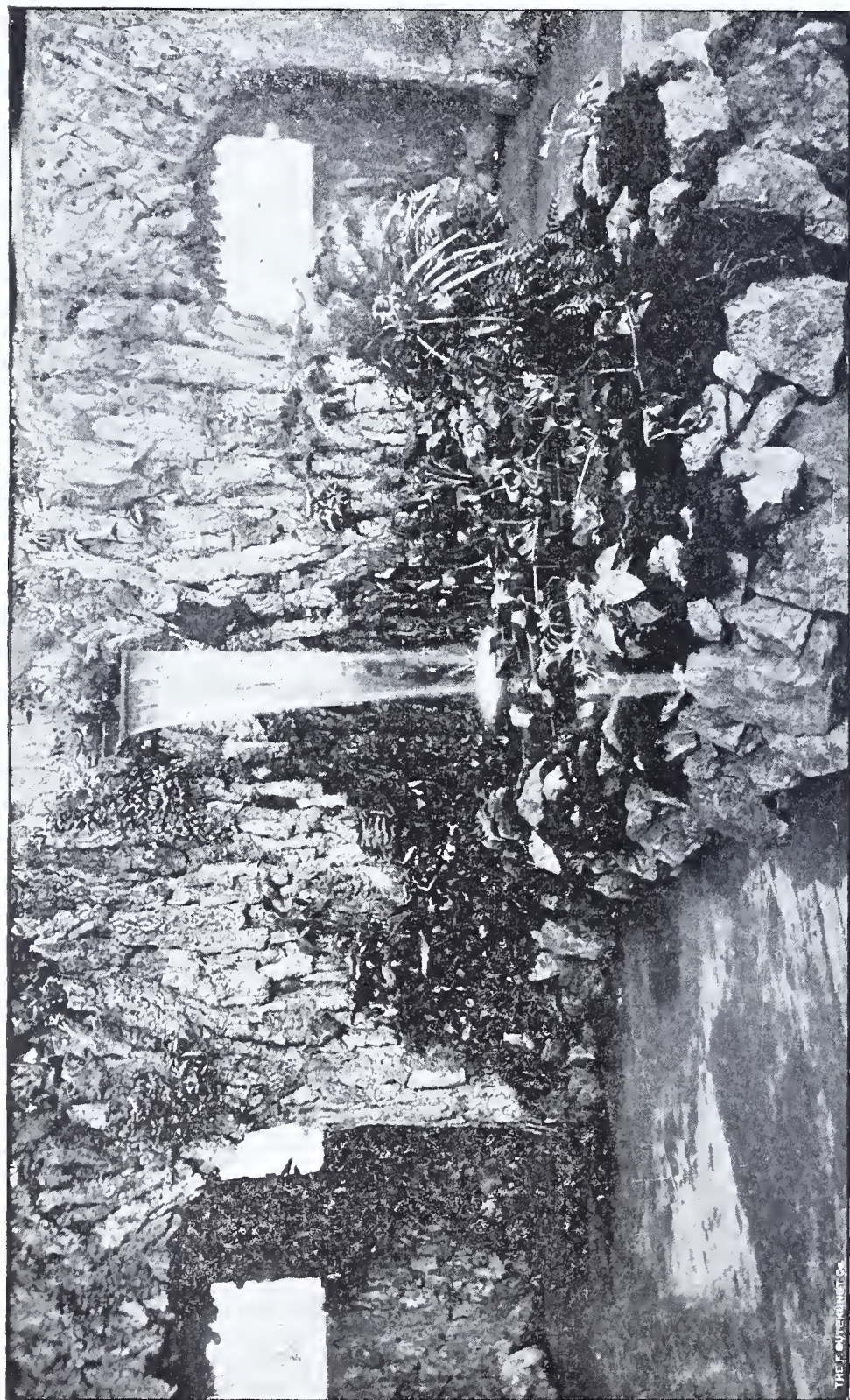
Within the inner circle of the horse shoe the visitor finds an inviting and romantic spot, where a pretty cascade rolls down a miniature mountain, whose crest is adorned with pines and trees and various plants, while a blue heron stands like a sentinel guarding this rustic retreat. A sheet of water drops into a pool where trout hide and occasionally take a run through a working model of the Rogers patent fishway, thus affording an object lesson of the best-known method of passing migratory fishes over dams and other artificial obstructions encountered in their movement up streams in search of suitable spawning grounds. Entering the grotto which encircles this exhibit, one finds a complete variety of artificially propagated trout which are in separate aquaria. The ceiling and the walls of this grotto attract universal attention. On the floor are placed rough stones, which piled along the edges of the wall, add to the romantic beauty of the spot. Models of the State Fish Hatchery Buildings, located at Corry, Erie, and near Allentown, are arranged as a dividing line at the entrance to the exhibit.

As a whole this exhibit is not only an object of justifiable pride to all Pennsylvanians who may have the pleasure of seeing it, but it will teach them how much depends upon their fisheries, and upon the important work which has been and is being done by their State Fish Commissioners in increasing and maintaining an abundance of useful food species in Pennsylvania waters.









Pennsylvania Fish Commission Exhibit—Interior View, (Fisheries Building—West Pavilion).

## DEPARTMENT D.

### Fish, Fisheries, Fish Products and Apparatus of Fishing.

The Fisheries Building is situated in the northerly and easterly portion of the grounds, with the United States Government Building immediately south of it, and many of the Foreign Government Buildings on the north and northeast. It consists of a main and central structure, with two smaller polygonal wings, the east and west respectively, connected by arcades. The Pennsylvania exhibit, by far the handsomest in the whole building (excepting only the United States Fish Commission Aquaria) is located in the westerly polygon or wing, on the left of the entrance from the Arcade.

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#### OFFICIAL GROUP 37.

##### Live Fish in Aquaria (Section R, Division E—29.)

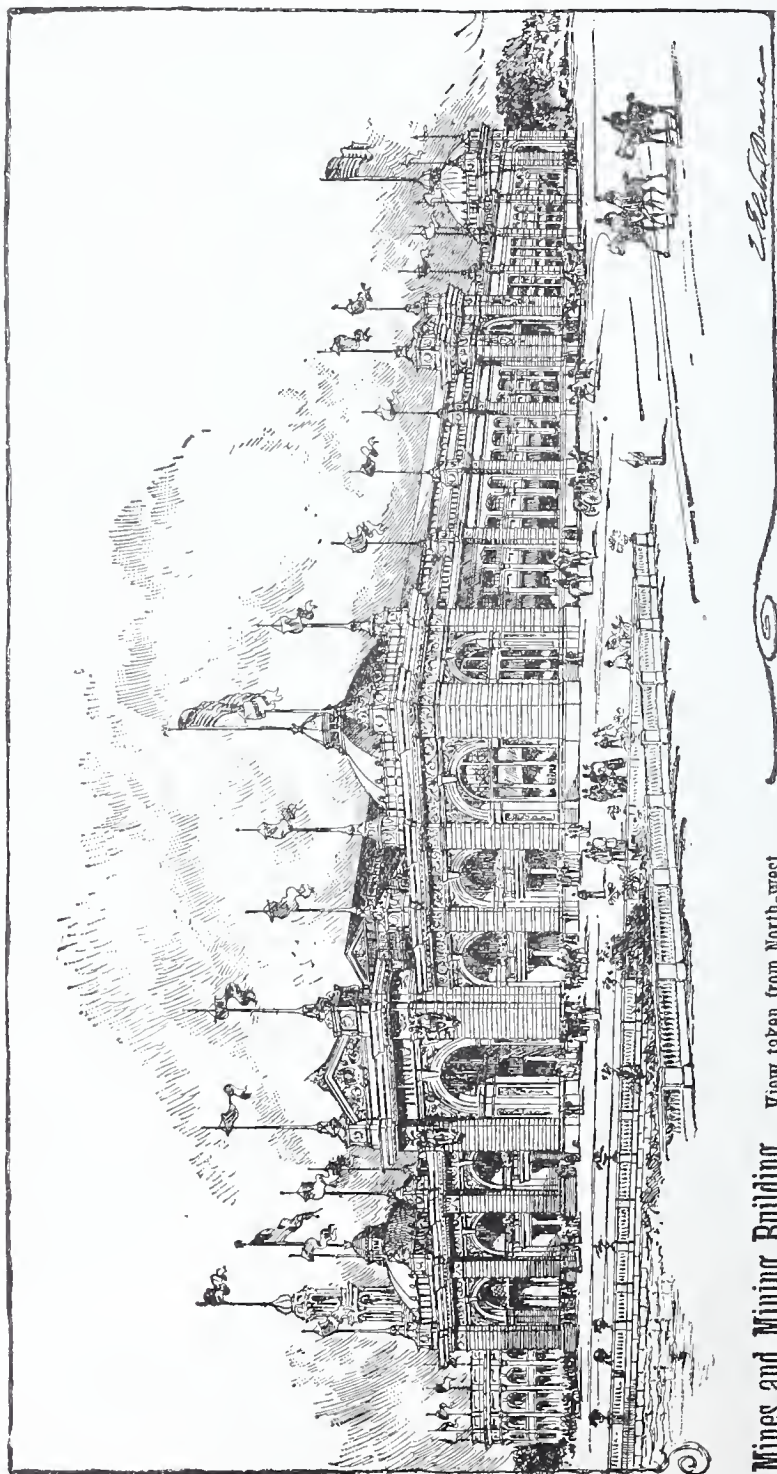
- |                              |                    |
|------------------------------|--------------------|
| 1. Lake Trout.               | 12. Rock Bass.     |
| 2. Brook Trout.              | 13. Calico Bass.   |
| 3. Rainbow Trout.            | 14. Red Horse.     |
| 4. Brown Trout.              | 15. Rock Sturgeon. |
| 5. Hybrid Trout.             | 16. German Carp.   |
| 6. Large-mouthed Black Bass. | 17. Pike Perch.    |
| 7. Small-mouthed Black Bass. | 18. Pike.          |
| 8. Yellow Perch.             | 19. Gar.           |
| 9. Yellow Catfish.           | 20. Dogfish.       |
| 10. Marcalonge.              | 21. Whitefish.     |
| 11. White Bass.              | 22. Eels.          |

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#### OFFICIAL GROUP 41.

1. **Fish Hatcheries**, illustrated by models and pictures. (Section R, Division E—29.)
2. **Models of Fishways.**
3. **Water Color**, drawings of fish.
4. **Specimens** of fish artificially propagated.





Mines and Mining Building, View taken from North-west.

### MINES AND MINING EXHIBIT.

In order to show the mineral resources of the State of Pennsylvania it was thought desirable to make a collection of representative specimens from every part of the State. Pennsylvania is rich in fire clays, tile and brick clays, glass sands, cement rock, nickel, zinc and iron ores. Her annual production of paint ores is almost double that of any other State. An abundant supply of Kaolin and Feldspar of the best quality is found and is in great demand at the various potteries in New Jersey and Ohio. Each of these minerals is presented in this exhibit by what, for want of a better term, may be called the systematic method. By this method there are displayed side by side with the crude substance and the finished product specimens representing the different stages in its preparation for commercial or manufacturing purposes. For example, various fire clays are shown in crude and calcined forms together with such specimens of the product as may be required to illustrate the possibilities of the crude clay.

While Pennsylvania is in some measure losing her rank as an iron ore producing State, yet her product of pig-iron exceeds that of any other State in the Union more than four times, having reached in 1890 over four million nine hundred and forty-five thousand short tons. This was nearly half of the total production of the country for that year. Specimens of iron ore with analyses from the ore producing sections of the State are included in the exhibit, and three representations of the manufacture of iron from ore mixtures, fluxes, and fuels in the proportions used in furnaces, with the proportionate quantities of the resulting pig iron and slag, are also shown.

One of the most complete exhibits is that of the Lehigh Zinc and Iron Company, representing the process of manufacturing zinc oxide and spiegel iron. An oil painting five feet in length gives a graphic presentation of the methods of manufacture, while immediately below are shown the ores, coal, etc., with the products, in their proper proportions.

The stone production of the State in 1891, amounted in value to seven million five hundred thousand dollars. A number of building stones of excellent quality and attractive appearance are produced. The large and handsome collection of these stones in our exhibit has called forth universal expressions of admiration and surprise, even from those who have given some attention to the stone production of the State.

In slate Pennsylvania is pre-eminent. In 1891, the product of the whole United States amounted in value to less than four millions of dollars, over two millions of dollars worth of which was found in Pennsylvania. The Peach Bottom Slate Producers Association has con-

tributed to the exhibit a collection of roofing slates, while the Old Bangor Slate Company has erected a pavilion with domes illustrating many applications of slate in house building, and notably, the use of naturally curved slate on curved surfaces.

The exhibit of the petroleums of Pennsylvania furnished by the Eclipse Oil Works of Franklin, Pennsylvania, is unquestionably the finest display of the kind that has ever been made. It is contained in three large cases, and consists of about three hundred specimens representing the crude and manufactured petroleum products in Pennsylvania. The bottles used were designed especially for this purpose.

The exhibit of coal is naturally an important and comprehensive one. A square obelisk of Pennsylvania Anthracite, fifty-four (54) feet in height occupies the center of the mining building and is, perhaps, the most conspicuous single exhibit there. The blocks of coal for its construction were taken from the Mammoth Anthracite Coal Vein, in the mines of the Lehigh Valley Coal Company, on the Girard Estate. This obelisk, in the form of "Cleopatra's Needle," presents exactly the height and structure of one of Pennsylvania's largest coal veins, with the actual stratification of coal and slate as they occur in the vein from which the material is taken. The knowledge of the vast area of our coal mines is world wide, but this needle is a vivid presentation of the additional and most striking fact that these veins exist in a thickness of over fifty feet. All the varieties of coal, in the eight marketable sizes, found in the anthracite region are shown in pyramidal glass cases, and a complete working illustration of the preparation of the coal is presented, by means of a miniature coal breaker and mine. The breaker, which is a working model showing the whole process of preparing anthracite coal for the market, was built to scale, and is about fourteen feet in height; the breaker and mine together cover about two hundred and fifty square feet of space. It is finished in hard wood and includes all the machinery of a modern breaker. The shaft and the slope are represented, the methods of raising and dumping cars, and of breaking, screening and loading coal, as in actual practice. In the mine itself are shown methods of laying out, working, ventilating and timbering for different pitches, also the methods of transporting coal in the mine, and of signaling with electric bells. In addition to these are pumps, mine cars, drills, scrapers and in short the complete apparatus used in the mining and preparing of anthracite coal. The methods of anthracite mining are further illustrated by a series of exceptionally fine working drawings.

The total production of the anthracite coal fields for 1891, was fifty million, six hundred and sixty-five thousand, four hundred and thirty-one short tons.



Bituminous coal is shown in sections one foot square, cut out of the vein, having the total height of the vein, with a portion of the top and bottom *in situ*.

The total production in Pennsylvania in 1892, was forty-two million, seven hundred and eighty-eight thousand, four hundred and ninety short tons, the spot value of which was thirty-seven million, two hundred and seventy-one thousand and fifty-three dollars.

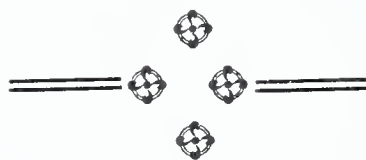
A relief map of the State on the scale of ten thousand, five hundred and sixty feet to one inch horizontally, and two thousand to the inch vertically, illustrates the most prominent industries, relating to Mines and Mining. It shows the coal areas, the oil, gas and iron ore areas; the location of blast furnaces, railroads, canals, pipe-lines and waterways. A number of other relief maps representing special geological features of interest may be seen.

A series of charts and maps prepared by the State Geological Survey illustrate the mining resources of the State; six of these are about fifteen feet in length and show the extent of the anthracite coal fields; others are more fully considered in the descriptive list appended.

It is to be noted that this entire exhibit is prepared with reference to its educational importance and in anticipation of its permanent preservation by the State. In nearly every case where the value of the product depends upon the chemical composition the analysis accompanies the specimen. While many of the specimens have but little intrinsic value, when indexed, labeled, catalogued and classified as they are here they become invaluable.

While Pennsylvania's rank as a mineral producing State depends in a great measure upon the vast deposits of coal, iron ore, gas and a few other minerals, a study of this display gives some appreciation of the great variety and extent of the deposits of other minerals found throughout the State, the value of which is not usually recognized.





## DEPARTMENT E.

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### Mines Mining and Metallurgy.

The Mines and Mining Building is located between the Transportation and Electricity Buildings, at the southern extremity of the Lagoon—and is near the general railroad terminal station.

Pennsylvania's Exhibit in this building takes precedence of all others, which it is justly entitled to do; more than half the COAL produced in the country comes from the mines of Pennsylvania, and the same proportion is true in the production of IRON and STEEL. The exhibit is on the easterly side of the main aisle, just a few feet south of the northern entrance.

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### CLASSIFICATION.

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#### GROUP 42.

##### Minerals, Ores, Native Metals, Gems and Crystals—Geological Specimens;

Class 290. Collections of minerals systematically arranged.

Class 291. Collection of ores and associated minerals. Diamonds and gems, rough, uncut and unmounted. Crystallography. Specimens illustrating the formation of the earth, systematically arranged.

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#### GROUP 43.

##### Mineral Combustibles—Coal, Coke, Petroleum, Natural Gas, Etc.

Class 292. Coal—Anthracite, semi-bituminous and bituminous; coal waste, "slack," coke, and pressed coal.

Class 293. Asphaltite and asphaltic compounds—unitaite, wortzilite, grahamite, albertite, bitumen, mineral tar, amber.

Class 294. Petroleum—illuminating and lubricating oil.

Class 295. Natural gas—methods of conveying and using.

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**GROUP 44.****Building Stones, Marbles, Ornamental Stones and Quarry Products.**

- Class 296. Building stones, granites, slates, etc., rough hewn, sawed or polished—For buildings, bridges, walls, or other constructions, or for interior decoration, or for furniture.  
Marble, white, black or colored—stalagmitic marbles, onyx, brecciated marbles, silicified wood, agates, jaspers, porphyries, etc., used in building, decoration, statuary, monuments, vases or furniture.
- 

**GROUP 45.****Grinding, Abrading and Polishing Substances.**

- Class 297. Grindstones, hones, whetstones, grinding and polishing materials, sand, quartz, garnet, crude topaz, diamond, corundum, emery in the rock and pulverized, and in assorted sizes and grades.
- 

**GROUP 46.****Graphite and its Products; Clays and Other Fictile Materials and their Direct Product; Asbestos, Etc.**

- Class 298. Crude graphite, in blocks and in powder.  
Class 299. Graphite and compounds for coating iron.  
Class 300. Graphite lubricants.  
Class 301. Electrotypers' graphite.  
Class 302. For pencils, crayons, etc.  
Class 303. Graphite crucibles and melting pots.  
Class 304. Clays, kaolin, silex and other materials for the manufacture of porcelain faience, and of glass, bricks, terra cotta, tiles and fire-brick; various examples.  
Class 305. Refractory stones for lining furnaces, sandstones steatite, etc., and refractory furnace materials. Mica; kidney, sheet or ground.  
Class 306. Bauxite clay for the manufacture of aluminum.  
Class 307. Asbestos, crude and manufactured.  
Class 308. Meerschaut.

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**GROUP 47.****Limestone, Cements and Artificial Stone.**

- Class 309. Lime, cement and hydraulic cement, raw and burned, accompanied by specimens of the crude rock or material used; also artificial stone, concrete, beton.  
Specimens of lime mortar and mixtures, with illustrations of the processes of mixing, etc. Hydraulic and other cements.
- Class 310. Beton mixtures and results, with illustrations of the process.
- Class 311. Artificial stone for building purposes, building blocks, cornices, etc. Artificial stone mixtures for pavements, walls or ceilings.
- Class 312. Asphaltic mastics and mixtures, asphaltic sand, asphaltic limestone.
- Class 313. Gypsum, crude and boiled, calcareous; plasters, mastics, etc.

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**GROUP 48.****Salts, Sulphur, Fertilizers, Pigments, Mineral Waters and Miscellaneous Useful Minerals and Compounds.**

- Class 314. Salts from beds or from brines.
- Class 315. Nitre and other nitrates.
- Class 316. Sulphates, alums and other salts.
- Class 317. Sulphur and pyrites for the manufacture of sulphuric acid.
- Class 318. Boracic acid and its salts, borax.
- Class 319. Pigments, iron oxides, ochres, vermillion, etc.
- Class 320. Mineral fertilizing substances, gypsum, phosphate of lime, marls, shells, coprolites, etc., not manufactured. (For commercial fertilizer sand compounds, see Group 17.)
- Class 321. Mineral waters, artesian well water (for commercial forms, as bottled and as beverages, see Group 10); natural brines, saline and alkaline efflorescences and solutions.

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**GROUP 49.****Metallurgy of Iron and Steel, with the Products.**

- Class 322. Ore mixtures, fluxes and fuels.
- Class 323. Blast Furnaces—stacks, stoves, blowing apparatus and arrangements.



- Class 324. Pig-iron, cast-iron and mixtures.  
Class 325. Cupola furnaces.  
Class 326. Direct processes—sponge and blooming plant and apparatus.  
Class 327. Puddling—furnaces and appliances.  
Class 328. Bessemer machinery—details and arrangements.  
Class 329. Basic process and apparatus.  
Class 330. Open-hearth steel—plant and apparatus.  
Class 331. Crucible-steel—plant and apparatus.  
Class 332. Nickel steel.  
Class 333. Manganese iron and steel, chrome steel, aluminum steel, tungsten steel, other forms of steel.  
Class 334. Iron and steel. Bars, rods, sheets, wire.
- 

### **GROUP 50.**

#### **Aluminum and its Alloys.**

- Class 335. Aluminum, pure and commercial ; ingots, castings, bars, rods, wire, sheets and partly manufactured.  
Class 336. Aluminum alloys.  
Class 337. Aluminum alloy wire and wire cloth.  
Class 338. Process for the extraction of aluminum ; electric reduction and results.
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### **GROUP 51.**

#### **Copper and its Alloys—Metallurgy.**

- Class 339. Native copper and the methods of extracting, melting and refining it.  
Class 340. Copper ores and their treatment by fire. Copper smelting. Pneumatic process. Converter system.  
Class 341. Copper extraction in the "wet" way.  
Class 342. Copper in ingots, bars and rolled, with specimens illustrating its various stages of production. Copper and zinc. Brass industry and products regarded as materials of manufacture.  
Class 343. Copper and aluminum, aluminum bronze.
- 

### **GROUP 52.**

#### **Metallurgy of Tin, Tin-Plate, Etc.**

- Class 344. Tin ores and their treatment.  
Class 345. Block tin and its extraction from tin ore.  
Class 346. Tin-plate and methods of cleaning and coating iron and steel plates.

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**GROUP 53.****Metallurgy of Zinc, Nickel and Cobalt.**

- Class 347. Production of spelter.
- Class 348. Sheet and bar zinc.
- Class 349. Production of zinc oxide.
- Class 350. Nickel in ingots, bars, rods, sheets and wire.
- Class 351. Nickel-covered steel and iron by rolling.
- Class 352. Nickel "plating."
- Class 353. Nickel salts.
- Class 354. Special nickel alloys, as German silver, etc.
- Class 355. Nickel steel. (See Class 332).

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**GROUP 54.****Metallurgy of Antimony and Other Metals Not Specifically Classed.**

- Class 356. Crude and star antimony.
- Class 357. Antimony compounds and principal alloys.
- Class 358. Arsenic, white arsenic, orpiment and realgar.
- Class 359. Bismuth and alloys. Quicksilver and amalgams.

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**GROUP 55.****Extraction of Gold and Silver by Milling.**

- Class 360. Gold mills and accessories.
- Class 361. Silver mills and accessories.
- Class 362. Apparatus and accessories of amalgamation; handling quicksilver.
- Class 363. Retorting, melting, stamping, shipping bullion.

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**GROUP 56.****Extraction of Gold and Silver by Lixiviation.**

- Class 364. Roasting and chloridizing furnaces.
- Class 365. Chlorination process and adjuncts.
- Class 366. Other processes.

**GROUP 57.**

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**Extraction of Gold, Silver and Lead by Fire.**

- Class 367. Furnace plant and appliances.  
Class 368. Lead bullion, molds and bars.  
Class 369. Refining operations.
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**GROUP 58.**

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**Quarrying and Working Stone.**

- Class 370. Quarrying, channeling and cutting engines.  
Class 371. Derricks and fittings.  
Class 372. Slate-cutting, sawing and planing machines.  
Class 373. Machines and apparatus for cutting, turning and polishing marble, granite and other stone. (See Group 78.)
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**GROUP 59.**

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**Placer, Hydraulic and "Drift" Mining.**

- Class 374. Apparatus and machines for washing gravel; sluices, cradles, toms, rockers, rifles, etc.  
Class 375. Construction of ditches, flumes, pen-stocks, etc.  
Class 376. Pipes for conveying water.  
Class 377. "Giants," nozzles and appurtenances.
- 

**GROUP 60.**

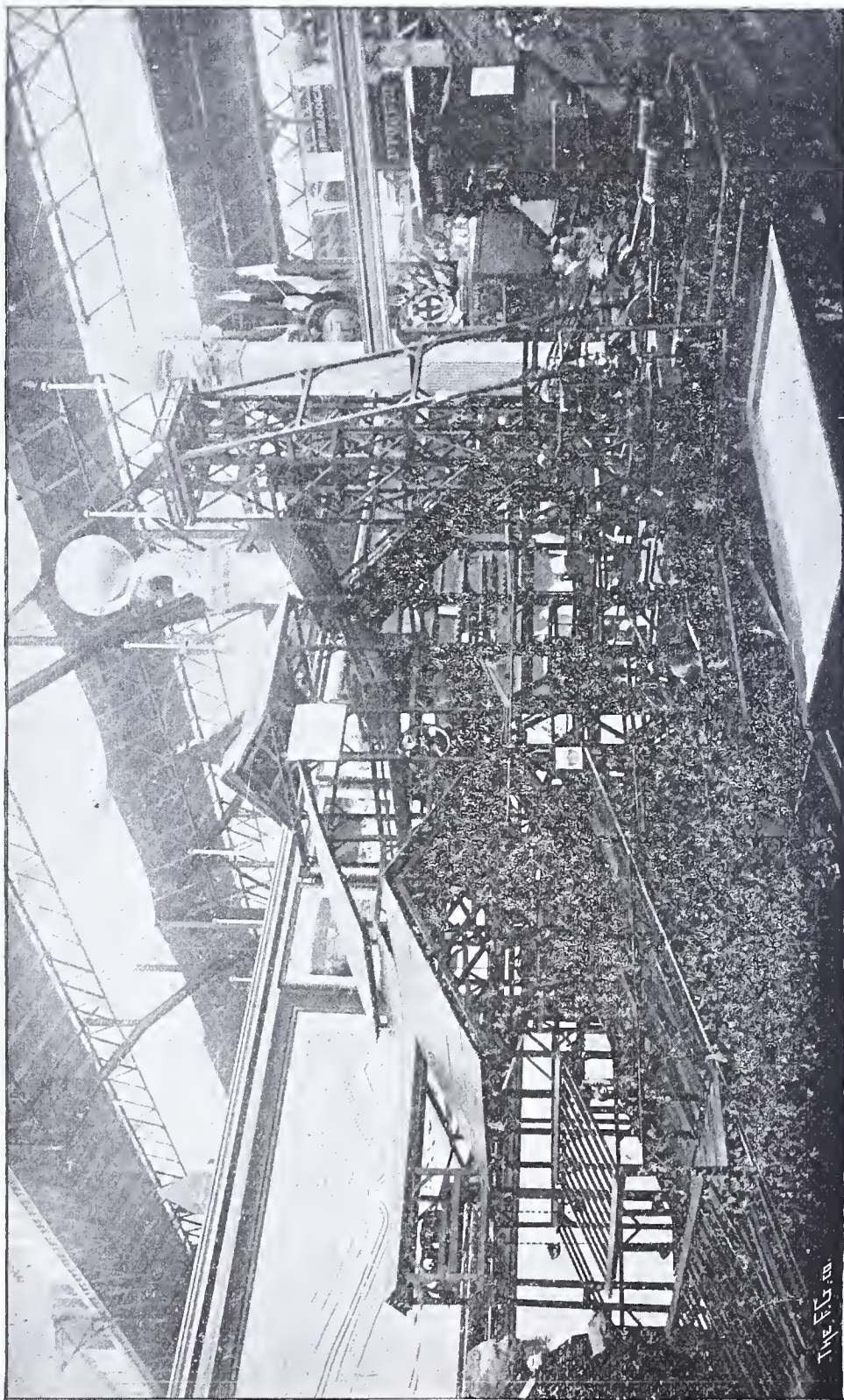
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**Tools and Appliances of Underground Mining, Timbering and Supporting.**

- Class 378. Timber cutting and framing machines.  
Class 379. Methods of timbering shown by examples.  
Class 380. Underground chutes, gates and appliances for delivering ores. Methods and appliances for ventilating, lighting and signaling.





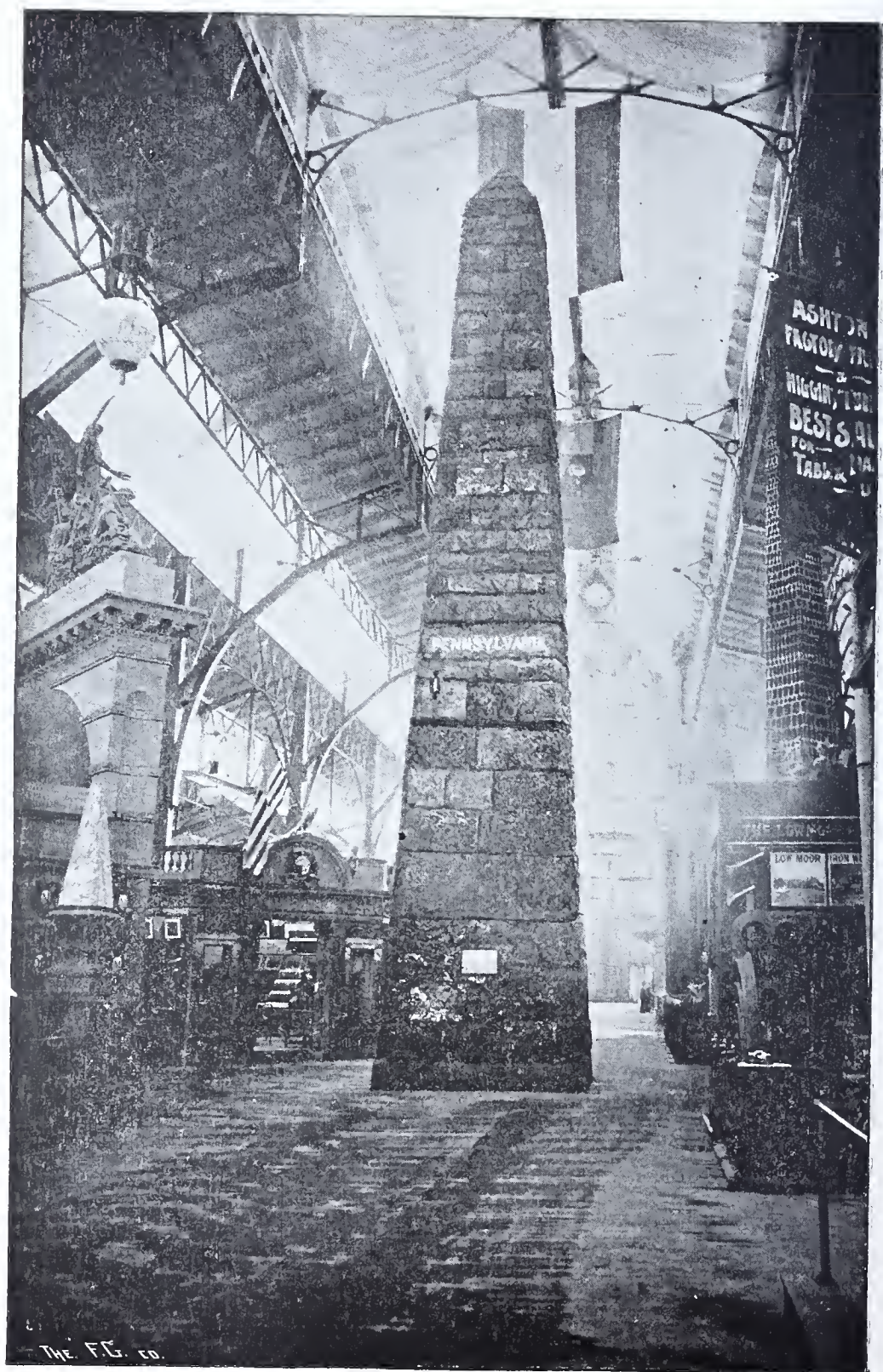


Coal Breaker—Mining Exhibit.

The F. G. Co.







Anthracite Coal Needle, Centre of Mining Building.

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**GROUP 61.**

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**Boring and Drilling Tools and Machinery, and Apparatus for Breaking Out Ore and Coal.**

- Class 381. Picks, gads and hammers.  
Class 382. Hand-drills, hammers and blasting implements.  
Class 383. Drilling by steam or compressed air—"power drills."  
Class 384. Diamond drills for prospecting or for sinking and driving.  
Class 385. Well and shaft boring (various systems.)  
Class 386. Boring for water, oil or gas—tools and methods.  
Class 387. Machines, apparatus and implements for cutting coal.

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**GROUP 62.**

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**Pumps, Engines and Apparatus Used in Mining for Pumping, Draining and Hoisting.**

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**GROUP 63.**

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**Moving, Storing and Delivering Ores, Coals, Etc.**

- Class 388. Tramways, turn-tables, automatic hoisting and conveying on the surface, contrivances for loading and unloading ores and coal.  
Class 389. Cars of all kinds.  
Class 390. Automatic dumping.  
Class 391. Ore bins and appliances.

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**GROUP 64.**

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**Apparatus for Crushing and Pulverizing.**

- Class 392. Rock breakers.  
Class 393. Rolls.  
Class 394. Large stamps.  
Class 395. Stamps and mortars.  
Class 396. Revolving grinding mills.  
Class 397. Coal breakers.



**GROUP 65.****Sizing Appliances.**

- Class 398. Grizzlys and bar screens and sieves.
  - Class 399. Perforated plates.
  - Class 400. Wire-mesh sieves and trammels.
  - Class 401. Sizing by currents of water or air. Overflows.
  - Class 402. Sizing by belts.
- 

**GROUP 66.****Assaying Apparatus and Fixtures.**

- Class 403. Plans of assay offices.
  - Class 404. Furnaces, muffles and appliances.
  - Class 405. Scorification and cuppelling.
  - Class 406. Volumetric methods and apparatus.
  - Class 407. Fluxes and their receptacles.
  - Class 408. Assay balances, etc. (See Group 112.)
  - Class 409. Assay tables, assay schemes and methods.
- 

**GROUP 67.****History and Literature of Mining and Metallurgy.**

- Class 410. Maps, relief models and pictures to illustrate the geology and distribution of minerals and mines, and the methods of working mines.
- Class 411. History and statistics of mines and mining districts. Charts, diagrams and tabular representations. Statistics of mineral production.
- Class 412. Mine engineering—surface and underground surveying and plotting, projection of underground work, location of shafts, tunnels, etc.; surveys for aqueducts and for drainage.
  - Boring and drilling rocks, shafts and tunnels, etc.; surveys for aqueducts and for ascertaining the nature and extent of mineral deposits.

Construction—sinking and lining shafts by various methods, driving and timbering tunnels, and the general operations of opening, stopping and breaking down ore; timbering, lagging and masonry.

Hoisting and delivering at the surface, rock, ore or miners; pumping and draining by engines, buckets or by adits.

Ventilating and lighting.

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### GROUP 68.

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**Originals or Reproductions of early and Notable Implements and Apparatus Used in Mining and Metallurgy.**

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(NOTE.—The numbers in parenthesis indicate the number affixed to the mineral or other specimen.)

### GROUP 42.

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**Minerals, Ores, Native Metals, Gems and Crystals. Geological Specimens.**

Class 290. Collections of minerals systematically arranged. Plank, Dr. D. Heber, Morgantown, Pa.

No. 1 (452). Minerals from Cærnarvon township, Berks county. Schœnfeld, Dr. John, Reading, Pa.

No. 2 (453). Minerals from Berks county. Ladies' Auxilliary Committee, of Delaware county.

No. 3 (509). Minerals of Delaware county in keystone design.

Class 291. Collections of ores and the associated minerals. Diamonds and gems, rough, uncut and unmounted. Crystallography.

Specimens illustrating the formations of the earth, systematically arranged.

### Iron Ores.

**Allentown Iron Company, E. T. Clymer, Manager, Allentown, Pa.**

This company was using about 325 tons each week of Pennsylvania ores in 1892. The ores come from six small mines in the townships of Upper and Lower Macungie and South White Hall, in Lehigh county and from Longswamp township, in Berks county. The ores are all similar, hydrates of ferric oxide, containing when properly mixed, about 43 per cent. of iron.

- No. 4 (134). Ore from C. Kehun's mine, Salisbury township.  
 No. 5 (135). Ore from J. Stettler's mine, Longswamp township.  
 No. 6 (136). Ore from Lichtenwaluer & Stettler's mine, Longswamp, township.  
 No. 7 (137). Ore from Lichtenwaluer & Sterner's mines, S. Whitehall township.

#### Analyses.

	<i>No. 4.</i>	<i>No. 5.</i>	<i>No. 6.</i>	<i>No. 7.</i>
Silica, .....	28.00	21.00	18.00	19.00
Iron, .....	40.00	45.00	48.00	46.00
Manganese, .....	0.53	0.30	0.25	0.42
Alumina, .....	2.14	1.70	2.00	1.60
Phosphorus, .....	0.24	0.16	0.14	0.18

#### Iron Ores.

##### McConnell E. M., New Castle, Pa.

Ores from three different beds, which forty years ago afforded the only source of supply for the Pittsburgh furnaces. These ores are of less commercial importance at present, owing to the introduction of the richer ores of Michigan.

No. 8 (138). Carbonate Iron Ore, Lawrence county. Throughout the State wherever the great conglomerate or millstone grit exists, this extensive bed of ore is found. In many places lenticular deposits of greyish blue carbonate extend for miles with a maximum thickness, as in Clinton county, of three to four feet. It is the equivalent of the Mauch Chunk shale ore of Eastern Pennsylvania.

No. 9 (139). Inter Conglomerate Carbonate Iron Ore, Lawrence county. This is the equivalent geologically, of the Alabama ores. It is from the locally named Mercer group. In the forties, twenty-two furnaces in Mercer county and a number in Lawrence county—among them the Oregon, Iron City, Big Bend, Hamburg, Greenville, Harry of the West, Mineral Ridge and others used this ore. Between the years 1845 to 1855-'60, more iron was made in Mercer county than in any other area of equal size in the State. Limestone two to three feet thick underlaid the iron ore, and a two feet coal seam resting on five feet of fire clay, while heavily wooded land furnished charcoal. But Connellsville coke and Michigan ores have brought about great changes in the iron industry, and furnaces making three to five tons in a day are replaced by others yielding 200 tons in the twenty-four hours.

No. 10 (140). Brown Hematite Ore, Lawrence county. This valuable bed of ore is found directly above the great ferriferous limestone and about 300 feet above the carbonate ore.

No. 8. It follows the outcrop of the limestone through western Indiana, Northern Armstrong, Butler, Northern Beaver, Lawrence, Clarion and Jefferson counties, the limonite lying upon or filling hollows in the limestone, sometimes to a thickness of 10-12 feet.

Thirty-five years ago more than fifty furnaces were running on this "Buhrstone Ore" making charcoal iron, from which Pittsburgh obtained its entire supply. The ore was used in Southeastern Ohio and furnished the famous Hanging Rock pig iron. Twenty furnaces in Kentucky are now using the ore.

### Analyses.

	No. 8.		No. 9.	
Iron,.....	31.200	41.000	37.250	35.200
Manganese,.....			.655	.807
Lime, .....			3.020	4.120
Magnesia, .....			1.747	2.223
Phosphorus, .....	0.120	0.129	0.145	0.178
Sulphur, .....	0.253	0.191	0.154	0.335
Insoluble.....	21.930	6.810	9.790	11.190

No. 10. Analysis of sample taken from bed 1-2 feet thick, 9 miles east of New Castle, Lawrence county.

Ferric Oxide,.....	Fe <sub>2</sub> O <sub>3</sub>	79.000=Fe	55.326
Ferric Sulphide,.....	FeS <sub>2</sub>	0.056	
Manganese Oxide,.....	Mn <sub>2</sub> O <sub>3</sub>	0.517=Mn	0.360
Alumina, .....	Al <sub>2</sub> O <sub>3</sub>	2.980	
Lime, .....	CaO	0.480	
Magnesia, .....	MgO	0.396	
Phosphoric Acid, .....		0.572=P.	0.230
Sulphuric Acid, .....		trace=S.	0.030
Carbonic Acid, .....			
Water, .....		13.566	
Insoluble,.....		2.708	

100.275

Hartzell, H. K., Eighth and Walnut Street, Philadelphia.

### Iron Ores.

11. (141). Magnetite, Rittenhouse Gap Mine, Longswamp township, Berks county, Pa.

No. 12 (142). Magnetite, Mine in Hereford township, Berks county, Pa.

No. 13 (143). Semi-hematite (or Neulrat) Mine in Hereford township, Berks county, Pa.



No. 14 (144). Magnetite Ore, from Rittenhouse Gap Mine, concentrated by Hartzell's Electric process, 12 mesh fine.

#### Analyses.

	<i>No. 11.</i>	<i>No. 12.</i>	<i>No. 13.</i>	<i>No. 14.</i>
Silica, .....	41.710	5.310	7.115	2.560
Iron,.....	39.268	65.230	62.150	68.200
Phosphorus, .....	0.022	0.020	0.036	0.005
Sulphur, .....	—	trace	trace	none

**Smith, A. U.,** Beaver Springs, Pa.

#### Iron Ores.

No. 15 (145). Bird's Eye Ore, Hematite, Mine Southeast of Adamsburg; Bed about 22 inches thick; yields about 50 per cent of iron. Used in puddling.

No. 16 (146). Sand Vein Ore, Adamsburg. Used for pig iron. Yield about 10,000 tons per annum. Iron 48 per cent.

No. 17 (147). Basin Fossil Ore. Two miles south of Adamsburg. Used for pig iron. Yields 10,000 tons per annum. Iron 54 per cent.

No. 18 (148). Brown Fossil Ore, West of Adamsburg. Used for pig iron. Iron 52 per cent.

**Durham Iron Works,** Riegelsville, Pa.

#### Iron Ores.

The Durham Mines have been in almost continued operation since 1727, when the first furnace was established at Riegelsville. The ore outcrops on the West side of the hill. The Rattlesnake mine, has been worked out to the level of the Delaware river, about 500 feet on the incline.

No. 19 (149). Red Hematite, Surface Mine, Mine Hill, Riegelsville.

No. 20 (150). Magnetite, Rattlesnake Mine, Durham Mines, Riegelsville.

#### Analyses. (Averages of Output.)

	<i>No. 19.</i> <i>Surface Mine.</i>	<i>No. 20.</i> <i>Rattlesnake Mine.</i>
Combined water,.....	1.15	1.00
Silica,.....	30.45	24.80
Oxide of iron,.....	66.73=Fe 47.57	71.66=Fe 51.51
Alumina,.....	.96	2.22
Lime,.....	.07	.16
Magnesia,.....	.17	.82
Phosphoric acid, .....	.06=P .026	.096=P .042
Sulphuric acid,.....	.32=S .127	.260=S .105
Total, .....	99.81	100.756

## Iron Ores.

**Phoenix Iron Works**, John H. Harden General Mining Engineer, Phoenixville, Chester County Pa.

No. 21 (151). Magnetite, Boyertown Mines, Berks County, owned by the Phoenix Iron Company, and Messrs. Eckert & Brother, Reading, Pa.

The upper and middle slopes have been abandoned, all the ore having been taken out to the limit of the property. A large deposit of ore still remains at a greater depth under the Borough of Boyertown. The lower slope is now being worked at a vertical depth of 390 feet, 500 feet on the slope.

## ANALYSES OF BOYERTOWN ORE.

RAW ORE.							ROASTED
CARS.	YEAR.	MONTH.	IRON.	PHOS.	SULPH.	SILICA.	IRON.
75.....	1887	June,.....	60.347	0.033	2.139	6.871	
91.....	"	July,.....	57.465	0.041	1.838	7.214	
11.....	"	August,.....	56.936		1.992	8.086	
35.....	"	September,.....	55.898	0.051	1.994	7.857	
38.....	"	October,.....	55.801		2.340	8.957	
13.....	"	November,.....	56.150	0.042	2.871	9.429	
50.....	1888	February,.....	59.768		1.626	6.560	
68.....	"	March,.....	59.151	0.032	1.718	6.629	
63.....	"	April,.....	53.714		1.542	9.571	54.496
76.....	1889	August,.....	60.300	0.028	1.865	7.070	
62.....	"	September,.....	59.747	0.030	2.308	6.810	61.757
367.....	"	October,.....	59.078	0.029	2.362	7.750	60.479
75.....	"	November,.....	56.197	0.025	2.826	9.010	57.389
169.....	"	December,.....	56.147	0.019	2.208	9.510	58.582
350.....	1890	January,.....	54.766	0.030	2.290	9.370	58.017
59.....	"	February,.....	49.743	0.026	2.375	11.260	57.915
.....	"	June,.....	57.646	0.018	1.442	5.610	58.460
.....	"	July,.....	58.732		1.558	5.310	59.617
97.....	"	August,.....	59.918	0.021	1.876	5.680	60.150
66.....	"	September,.....	58.208				
87.....	"	October,.....	56.919	0.031	2.397	17.370	58.954
66.....	"	November,.....	54.277	0.026	1.928	7.490	58.208
11.....	1891	January,.....	47.611	0.034	2.290	9.930	54.408
50.....	"	February,.....	49.686		2.023	10.290	53.463
33.....	"	March,.....	49.837		1.502	11.970	
88.....	"	April,.....	51.462	0.026	1.962	9.640	53.096
68.....	"	May,.....	53.197		1.531	9.940	53.828
93.....	"	June,.....	54.729		1.805	9.070	57.345
94.....	"	July,.....	53.397	0.027	2.204	9.200	55.469
72.....	"	August,.....	52.988		2.535	10.860	57.256
93.....	"	September,.....	56.226	0.036	2.121	7.910	57.920
87.....	"	October,.....	57.218		2.183	8.460	58.558
84.....	"	November,.....	56.016	0.033	2.324	8.840	58.350
.....	"	December,.....					57.280
.....	1892	January,.....					55.773
AVERAGE,.....			55.735	0.030	2.061	8.457	57.365

No. 22 (152). Magnetite, Jones' Iron Mine, Joanna, Berks county, Pa. Owned by the Phoenix Iron Company, and E. & G. Brooks Iron Company, Birdsboro', Berks county.

The Jones Iron Mine is an open quarry, over 100 feet in depth, covering about nine acres. It has been worked for a hundred years or more, and was formerly the source of supply for many of the old charcoal furnaces of Berks and Chester counties.

It is said that William Penn first learned of the existence of copper and other minerals associated with it, within the limits of his Province, from Indians who appeared in his presence adorned in their primitive ornaments of copper (malachite) and sulphuret crystals, which upon investigation were found to have been obtained in the locality where the Jones mine is now situated.

Prof. Peter Lesley says: "The Proprietary of Pennsylvania in writing to his friends, during his first visit to his Province in 1683, refers to "minerals of copper and iron in divers places," and offered inducements to Welsh iron masters to open the mines and begin the manufacture of iron, and carried his plans so far as to dispose of a tract of land in Cærnarvon township, in 1686, (to a Welshman named David Jones and the tract is called the Jones tract). This is where the Jones mine is situated. Before David Jones owned the tract it is said that a man of French and German birth—a Huguenot—first explored and opened the mine with a view of purchasing the property from the Proprietary."

The ore is much like the Cornwall in character and deposition, but it is all below the surface. The richer beds yield ore which averages 50 per cent. of iron, the poorer ones contain only 25 to 35 per cent. These are likely to be of value in future when concentration is applied.

An analysis of selected magnetic iron ore from this mine, as used by Col. L. Heber Smith at his charcoal furnace in combination with the Bookwalter Brown Hematites, of the Welsh mountain is as follows:

Silica, .....	23.190
Iron, .....	37.850
Manganese copper, .....	0.260
Phosphorus in 100 parts of iron, .....	1.145
Phosphorus, .....	0.055
Sulphur, .....	1.496

### Iron Ore.

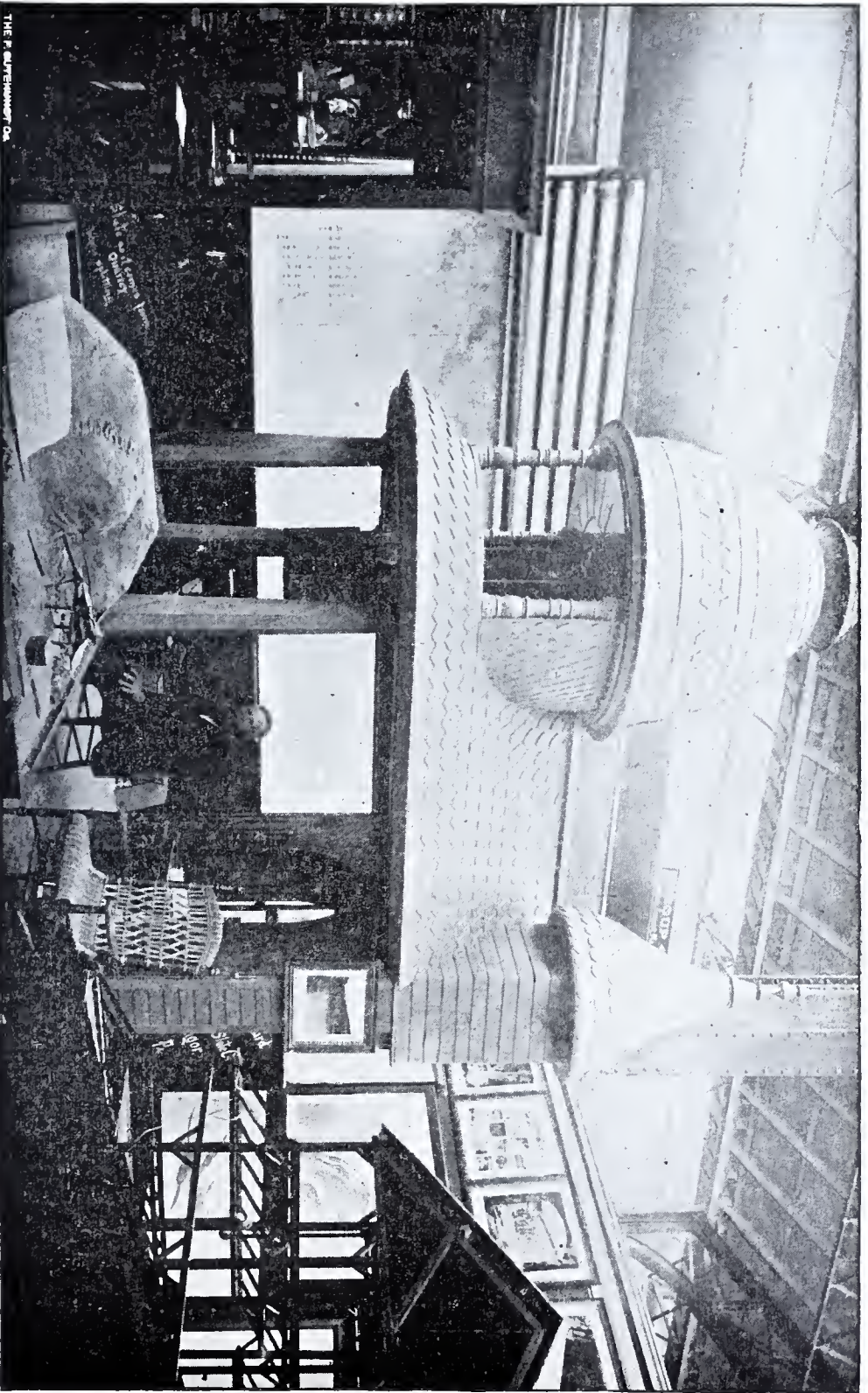
**Cornwall Ore Bank Company, Cornwall, Pa.**

No. 23 (153). From Cornwall Ore Bank, Lebanon county, Pa. (See Relief Map No. 405.) Block of ore, one cubic foot; weight, 294 pounds.

#### Production of Ore from 1840 to 1892.

1740 to 1848, estimated, .....	1,000,000 tons.
1848 to 1853, " .....	173,191 "
1853 to 1864, " .....	1,351,717 "
1864 to 1892, " .....	8,990,078 "
Total production, .....	11,514,986 "
From 1882 to 1892 (50 per cent. of total), .....	5,791,258 "
Maximum for one year was, in 1889, .....	769 020 "



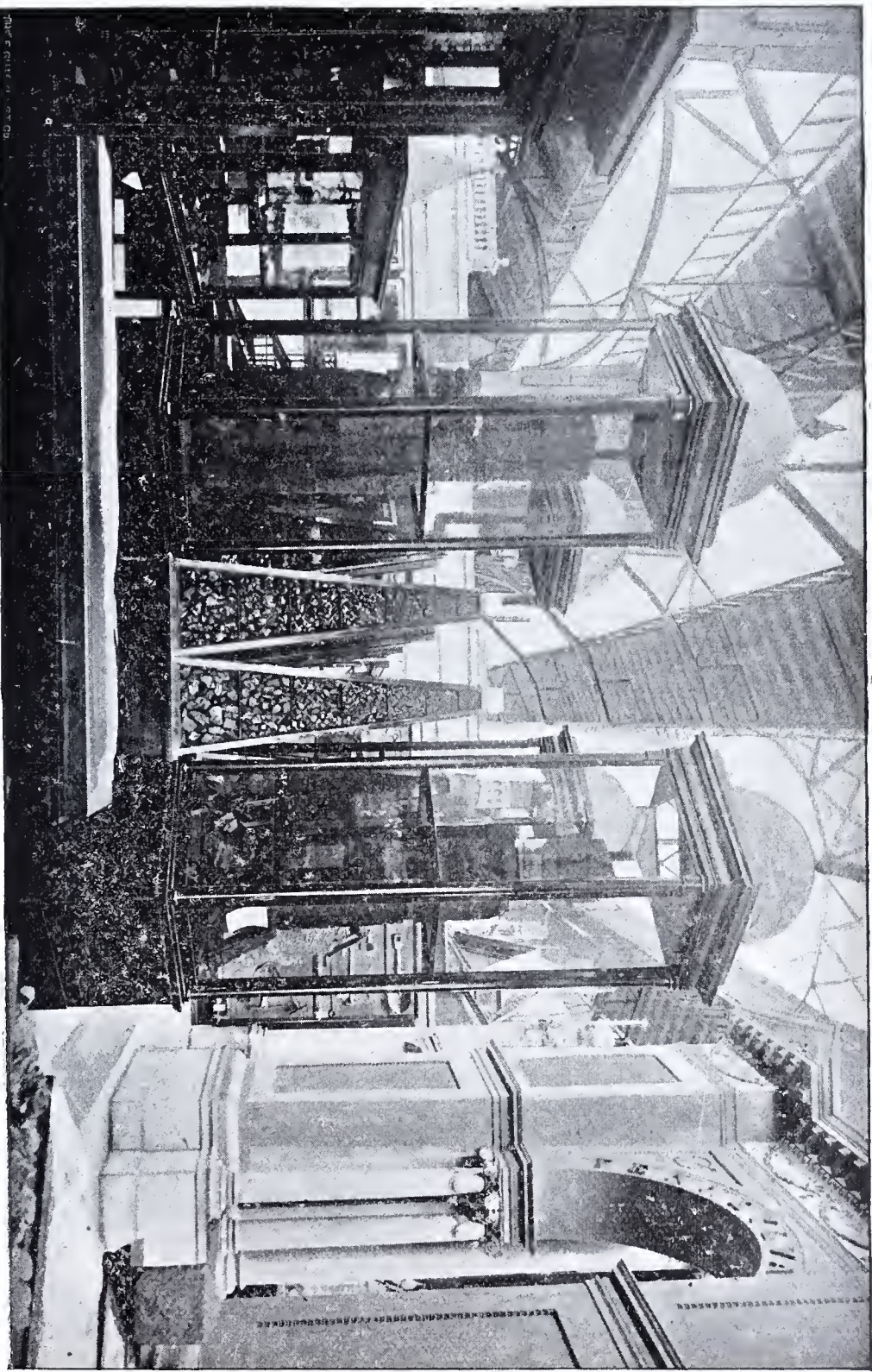


THE F. SUTHERLAND CO.

Mining Exhibit.







Mining Exhibit—Interior View.

PHOTOGRAPH BY J. C. CO.



**Analysis of Cornwall Ore.**

Silica, .....	3.98
Iron, .....	65.26
Copper, .....	0.14
Manganese, .....	0.02
Alumina, .....	2.66
Lime, .....	1.11
Magnesia, .....	1.67
Phosphorus, .....	0.004
Sulphur, .....	0.10

**Iron Ores from Scotia Mines.****Carnegie Steel Company, Pittsburgh.**

No. 24 (154). Scotia Ore from Scotia Mines, Benore, Centre county, Pa. Specimen from a lump weighing 115,000 pounds. Analysis: Iron, 50.471; phosphorus, 0.030; insoluble, 16.240.

No. 25 (155). Bomb-shell Ore, Scotia Mines,

No. 26 (156). Lump Ore. Scotia Mines. Analysis: Iron, 55.601; phosphorus, 0.031; insoluble, 7.980.

No. 27 (157). Small-sized Jigged Ore, Scotia Mines. Analysis: Iron, 42.417; Phosphorus, 0.067; Silica, 26.830.

No. 28 (159). A cubic foot of ore, Scotia Mines. Weight, 226 pounds. Analysis: Iron, 54.391; Phosphorus, 0.062; Insoluble, 9.080.

**Iron Ore.**

**Potts, William M.,** Isabella Furnace, Weybrook, Chester county, Pa.

No. 29 (158). Magnetite, Brandywine Ore, West Nantmeal township, Chester county. The ore occurs in lenticular masses, and is mined by both open cuts and shafts.

**Analysis of Brandywine Ore.\***

Dried at 100° c.

Iron.....	Fe <sub>2</sub> O <sub>3</sub>	57.197	}	Fe	62.156
" .....	FeO	28.416			
" .....	FeS <sub>2</sub>	0.034			
Alumina, .....		0.084			
Manganese, .....	MnO	0.578		Mn	0.448
Lime, .....		0.110			
Magnesia, .....		0.378			
Phosphoric acid, .....		0.006		P	0.003
Sulphur, .....	S				0.018
Carbonaceous Matter, ....		0.009			
Combined Water, .....		0.470			
Titanic acid, .....		10.444		Ti	6.368
Silica, .....		1.990			

99.716

\* By Booth, Garrett and Blair, Philadelphia.



**Iron Ore.**

**Peter S. Duncon**, Ore Hill, Blair county, Pa.

No. 30 (160). Bloomfield Ore, Bloomfield Ore Mine, Ore Hill, Blair county.

**Analysis.**

Water,.....		8.760	
Silica, .....		26.230	
Iron, .....	Fe <sub>2</sub> O <sub>3</sub>	57.800	Fe 40.46
Manganese, .....	MnO <sub>2</sub>	0.517	
Alumina, .....		5.673	
Lime,.....		0.680	
Magnesia, .....		0.110	
Phosphoric acid,.....		0.205	P 0.090
Sulphuric acid, .....		0.025	

**Iron Ores.**

**Pottstown Iron Company**, Pottstown, Pa.

No. 31 (161). Magnetite, Pottstown Iron Company's farm, Mount Pleasant, near Barto station, Berks county, yield iron 57.688 per cent.

No. 32 (162). Magnetite, Boyertown Ore yields iron fifty per cent.

No. 33 (163). Hematite and Manganese Ore, Laurel Mine, South Mountain Iron Company, Pinegrove, Cumberland county.

**Analysis.**

Iron,.....	38.685	Phosphorus, .....	0.442
Manganese,.....	9.345	Silica,.....	17.560

No. 34 (164). Beartown Ore, Hematite, Beartown district, Lancaster county. Mine owned by E. & G. Brooks, Birdsboro.

**Analysis.**

Iron,.....	45.830	Phosphorus, .....	1.300
Manganese,.....	3.721	Silica,.....	8.620

**Iron Ores.**

**Rockhill Iron and Coal Company**, Rockhill Furnace, Huntingdon county, Pa., Morton Stevens, chemist.

No. 35 (167). Shade Gap (Clinton) Fossil, east side of Shade Mountain, Huntingdon county.

The ore as it comes from the mine contains about ten per cent. of absorbed water.

## Analysis.

Water.			
Silica, .....		29.14	
Iron, .....	Fe <sub>2</sub> O <sub>3</sub>	58.36	Fe 40.85
Manganese, .....		1.66	
Alumina, .....		8.20	
Lime, .....		2.10	
Magnesia, .....		trace	
Phosphoric acid, .....		0.320	P. 0.14
Sulphuric acid, .....		0.200	S. 0.08

No. 36 (169.) Sandy Ridge Hematite Sandy Ridge, Huntingdon county. See serial Geological Survey of Pennsylvania, T 3 and F.

## Analysis. Average, (composition.)

Water, .....		5.01	
Silica, .....		15.47	
Iron, .....	Fe <sub>2</sub> O <sub>3</sub>	62.29	Fe. 43.59
Manganese, .....		0.96	
Alumina, .....		14.29	
Lime, .....		1.53	
Magnesia, .....		trace	
Phosphoric acid, .....		0.309	P 0.135
Sulphuric acid, .....		0.064	S 0.023

No. 37 (168). Booher (Clinton) Fossil ore. West side of Black Log Mountain, Huntingdon county. See Second Geological Survey of Pennsylvania, F.

Silica, .....		37.57	
Iron, .....	Fe <sub>2</sub> O <sub>3</sub>	57.52	Fe 40.26
Alumina, .....		1.78	
Lime, .....		2.01	
Magnesia, .....		0.48	
Phosphoric acid, .....		0.243	P 0.106
Sulphuric acid, .....		0.25	S 0.10

No. 38 (170). Schoenberger Hematite, Huntingdon county. Wash ore, which contains when delivered at the furnace about 5 per cent., of absorbed water. (See Second Geological Survey Pennsylvania, T3).

## Analysis.

Water combined, .....		7.21	
Silica, .....		25.20	
Iron, .....	Fe <sub>2</sub> O <sub>3</sub>	56.90	Fe 39.83
Manganese, .....	MnO <sub>2</sub>	2.90	
Alumina, .....		4.53	
Lime, .....		2.16	
Magnesia, .....		0.58	
Phosphoric acid, .....		0.224	P. 0.098
Sulphuric acid, .....		0.31	S. 0.124

No. 39 (171). Hill Valley Hematite, Hill Valley, Huntingdon county. The specimen shown is the lump ore.

Water combined, .....		3.02	
Silica, .....		31.83	
Iron, .....	Fe <sub>2</sub> O <sub>3</sub>	57.31	Fe 40.12
Manganese, .....		1.78	
Alumina, .....		1.74	
Lime, .....		1.87	
Magnesia, .....		0.61	
Phosphoric acid, .....		1.732	P. 0.756
Sulphuric acid, .....		0.245	S. 0.098

No. 40 (174). Bedford Slope Carbonate. Hill back of Orbisonia, Huntington county. The fine ore is washed, and contains, when brought in, about nine per cent. of absorbed water.

## Analysis.

Silica, .....	18.52
Iron, .....	33.70
Phosphorus, .....	0.045
Sulphur, .....	0.533

No. 41 (175). Bedford Slope Carbonate after heap-roasting. A pile of ore and coal dust six feet high is made over a floor of cord wood, old railroad ties, etc. It is allowed to smoulder for about six months, when the fire goes out and the heap is broken up, screened, and the lumps used in the furnace.

## Analysis.

Silica, .....		26.03	
Iron, .....	Fe <sub>2</sub> O <sub>3</sub>	62.60	Fe 43.82
Manganese, .....		0.29	
Alumina, .....		7.51	
Lime, .....		1.17	
Magnesia, .....		trace.	
Phosphoric acid, .....		0.17	P 0.07
Sulphuric acid, .....		1.53	S 0.61

No. 42 (179). Warrior's Mark Hematite. Similar to and from the same locality as the Schoenberger Hematite, No. 38. Analysis: Silica, 47.64; Iron, 34.36.

### Iron Ore.

**Erwin, Henry**, Bethlehem, Pa.

No. 43 (202). Hematite from Erwin's Mine, Fleetwood, Berks county. The shaft is 150 feet deep, and the mine produces 3,000 to 4,000 tons per year for pig iron. Analysis: 50 to 58 per cent. of iron.

**O'Hart, Solomon**, Cogan House, Lycoming county, Pa. Iron Ores.

No. 44 (308). Brown Limonite, Lycoming county.

### Analysis.

Silica, .....	6.595
Iron, .....	45.341
Phosphorus, .....	0.093
Sulphur, .....	0.104

**Meyer, Abraham**, Cogan House, Lycoming county, Pa. Iron Ores.

No. 45 (309). Brown Limonite, Lycoming county.

No. 46 (310). Red Hematite.

No. 47 (311). Red Hematite, Gregory's Ore Bank, Longswamp township, Berks county.

No. 48 (312). Bomb-shell Hematite, Easton.

No. 49 (373). Stalactitic Limonite, Lehigh county.

### Analyses.

	No. 45.	No. 46.
Silica, .....	15.227	12.512
Iron, .....	40.463	54.374
Phosphorus, .....	1.225	.077
Sulphur, .....	0.126	0.126

**Mone, Jacob H.**, Iron Ore, York county.

No. 50 (320). Iron ores and associated minerals from Mone and Meckley Mines, York county. Hand specimens showing the varieties of ores, clays, etc.

**McCoy & Linn**, Milesburg, Centre county. Iron Ores from Centre county.

No. 51 (354). Brown Hematite.

No. 52 (355). Brown Hematite Pipe Ore.

**Burnley, Dr. C. W.**, Cogan House, Lycoming county, Pa. Iron Ore.

No. 53 (368). Mauch Chunk Umbral Ore, Cogan House and Lewis townships, Lycoming county.

No. 54 (450). Shot Iron Ore, Lycoming county.



**Logan Iron and Steel Company**, Lewistown, Pa. Iron ores.

No. 55 (513). Soft Fossil Ore, Adamsburg, Snyder county. Used in the Emma Coke Furnace, at Lewistown.

No. 56 (514). Carbonate Ore (fine). Townsend Ore Bank, Mifflin county.

No. 57 (515). Roasted Carbonate Ore from Townsend Ore Bank. Used in Emma Coke Furnace.

#### Analyses.

		No. 55.	No. 56.	No. 57.
Silica,.....		23.68	6.43	20.85
Iron,.....	Fe <sub>2</sub> O <sub>3</sub>	75.96	56.27	74.90=Fe. 46.85
Alumina,.....		.24	2.65	2.11
Sulphur, .....				1.12*

#### IRON ORES.

**Schoenfeld, Dr. John**, Reading, Pa.

No. 58 (463). Foliated Iron Ore, with chalcopyrite and iron pig-nite, French Creek, Chester county.

No. 59 (464). Magnetite, Warwick Mines, Boyertown, Berks county.

**Chamberlin. W. B.**, Danville, Pa.

No. 60 (524). Ores from Montour county.

60  
and } **Montour Steel and Iron Company**, Danville, Pa.  
61.

No. 61 (540). Ores and associated minerals, from Montour county

#### IRON ORE.

**Shaffer, George**, Cogan Station, Lycoming county, Pa.

No. 62 (370). Red Hematite, Cogan House township, Lycoming county.

**McClarren, J.**, Cogan Station, Lycoming county, Pa.

No. 63 (371). Fossil Iron Ore, Block Ore, Lycoming township, Lycoming county.

**Gorham, Clay**, Cogan House, Lycoming county, Pa.

No. 64 (372). Brown Limonite, Cogan House township.

**Schoenfeld, Dr. John**, Reading, Berks county, Pa.

No. 65 (465). Manganese Ore, Cærnarvon township, Berks county. Deposit recently discovered. See also No. 68.

**Williams, C. K. & Co.**, Easton, Pa.

No. 66 (93). Black Oxide of Manganese, from near Pittsburg, Pa.

\*This ore is variable in the proportion of sulphur, which, after roasting, may range from 0.638 to 2.384 per cent.

## MANGANESE.

**Andrews, William.** Allentown, Pa.

No. 67 (184). Manganese Ore from deserted pit near Ironton, Pa. Owned and formerly operated by the Ironton Railroad Company. The vein was small, averaging perhaps two feet wide by three feet thick. The ore was found at a depth of about 125 feet.

**Plank, Dr. D. Heber,** Morgantown, Berks county, Pa.

No. 68. Manganese Ore, Psilomolane, Plank's Manganese and Red Hematite Mine, about one mile west of Jones Iron Mine, Cærnarvon township, Berks county.

A mineral belt which has not been studied by the State Geological Survey, extends through the townships Cærnarvon, Robeson and Brecknock, in Berks county. The vein is situated in this belt.

The surface is chiefly composed of conglomerate sand stone, strongly impregnated with Psilomolane or hard manganese ore, this latter occurring in dentrites and larger nodules of the usually mamillary shape. An average sample of these nodules picked up over the field that had been plowed up from amongst the gravel and analyzed by Dr. George A. Kœnig, April 19th, 1890, showed the following composition:

Manganic Oxide,.....	32.90
Barium Oxide,.....	3.02
Potassium Oxide,.....	1.25
Phosphoric Oxide,.....	0.256
Silica, .....	58.28
Nickel and Cobalt Oxides,.....	trace
Water, .....	7.62
	<hr/>
	100.45

In the outcrop, some shafts have been sunk to the depth of 25 feet to 30 feet, in which, after passing through eight to ten feet of quartz rock, a stratum of a slaty variety of red hematite is revealed, and underneath this stratum of iron ore the manganese ore is found embedded in a reddish white clay, holding water, below the embedded manganese ore the paint ores are found. The outcrop of this stratum of red hematite analysed by Dr. George A. Kœnig, April 19th, 1890, showed the following composition:

Iron Sesquioxide,.....	41.24
Manganic Oxide,.....	0.25
Phosphoric Oxide,.....	0.45
Sulphur,.....	None
Oxides of Nickel and Cobalt.....	Trace

Silica,.....	38.31
Alumina, .....	12.24
Lime, .....	None
Magnesia, .....	0.68
Water, .....	6.61

**Friedensville Zinc Company**, Friedensville, Lehigh county, Pa.

No. 69 (176). Zinc Ores, Friedensville. These ores are especially valuable for the production of fine spelter, specimens of which are shown. The ordinary ore is Sphalerite or Blende, with some calamin and associated greenockite.

### CHROMIUM ORES.

**Glenn, William**, Baltimore Crown Works, Baltimore, Md.

No. 70 (125). Chromium Wood Pit Ore, Chronite. Woods Mine, Lancaster county, Pa.

No. 71 (126). Chromium Sand Ore, from near Oxford, Chester county, Pa.

#### Analyses.

		No. 70.	No. 71.
Silica, .....		5.83	2.769
Ferrous Oxide,.....	FeO	27.12	34.642
Alumina,.....		5.01	7.544
Chromic Oxide,.....	h <sub>2</sub> O <sub>3</sub>	46.15	45.149
Magnesia, .....		16.11	8.783
		100.22	98.887

**Nickel Mines and Furnaces**, Capt. Charles Dobu, Superintendent, Gap Station, Pennsylvania Railroad, Lancaster county, Pa.

No. 72 (127). Large lump of nickel ore (175 lbs). Gap Nickel Mines, Lancaster county. Contains 2½ to 3 per cent. nickel. (See also Nos. 380 to 383).

No. 73 (131). Lump of copper ore, Gap Nickel Mines, Lancaster county.

Hoopes, H. A., Harrisburg, Pa., copper ores.

No. 74 (286). Copper ore from Musselman Hill, near Fairfield, Adams county, the property of the Keystone Copper Company, Harrisburg.

The property of this company is located on the South Mountain Copper Belt in Adams county, Pa., and in Washington and Frederick counties, Md. It adjoins the Russel property (No. 78). At Musselman Hill a shaft is sunk 50 feet deep and two tunnels about 50 feet and 150 feet in length, respectively. The ore is abundant and under unfavorable conditions has yielded 11 per cent. of metal. It is thought that it will average much higher—about 20 per cent. Much of the copper occurs in the metallic form. No work has been done for four or five years.

\* \* \* \* \*

No. 77 (289). Copper on Gettysburg Opening, three miles east of Gettysburg. The vein is about six inches thick and dips at an angle of  $45^{\circ}$ .

No. 78 (290). Copper ore, Russell shaft, South Mountain, Adams county. The property extends over 434 acres. Shaft No. 1 is 190 feet deep, No. 2 is 62 feet deep and there are three other openings 10, 20 and 30 feet deep, which show good copper. About \$150,000 has been expended in developing the mine, and encouraging prospects for future work are set forth by the parties interested.

No. 79 (291). Copper Ore, Headlight Tunnel.

No. 80 (466). Chalcopyrite, Eckston Mine, Perkiomen, Montgomery county.

No. 81 (467). Chrysocolla, Eckston Mine.

No. 82 (468). Chalcopyrite in Cale Spar, French Creek, Chester county.

No. 83 (469). Copper Ores, Cornwall, Lebanon county.

**Hillside Coal and Iron Company, W. A. May, Superintendent, Scranton, Pa.**

No. 84 (353). Diamond Drill, Bore Core, through the coal measures situated at the extreme Northeastern end of the Wyoming, Anthracite Coal Field, in Susquehanna county. The coal seams are there much thinner than they are about Scranton or further south.

The boring starts above what is locally known as the "Grassy Island Vein," further south as the "Fourteen Feet Vein," the "Big Vein" and the "Baltimore Vein," and the core represents all the measures from the Baltimore to the Pottsville conglomerate.

**Oil Well Supply Company, Pittsburg, Pa.**

No. 85 (462). Oil Well Borings. Samples from a well drilled at the Western Pennsylvania Exposition, at junction of Allegheny and Monongahela Rivers, 1890.

The well was drilled to a depth of 2350 feet, but no oil was found below 1985 feet.



## Memorandum of Formations.

Feet.

68. Slate, 10" Drive Pipe.	1140. Slate.
90. Sand, fresh water.	1180. First Sand.
100. Slate.	1220. Slate.
116. Four feet Coal.	1450. Salt Sand, salt water.
120. Buff Sand.	1570. Slate.
278. $7\frac{5}{8}$ " casing.	1610. Hundred foot.
320. Salt Water.	1690. Slate (should have ceased here).
350. Slate.	1710. White Sand.
370. White Sand.	1720. Slate.
380. Slate.	1740. White Sand.
450. White Sand.	1750. Slate.
460. Slate.	1756. Top of thirty feet (a little gas and a show of oil).
490. White Sand.	1770. Slate.
560. Slate.	1780. Boulder.
570. Little Gas.	1785. 5" casing.
620. White Sand.	1790. Slate.
670. Slate.	1810. Blue Monday.
680. Eight feet Coal.	1830. Slate.
690. Slate.	1870. Third Sand.
700. Sixty feet Salt Water.	1880. Slate.
735. $6\frac{1}{4}$ " casing.	1900. Fourth Sand.
740. Slate.	1940. Slate.
750. Forty feet.	1970. Fifth Sand.
770. Slate.	1980. Fifth Sand.
800. Big Injun.	1985. 480 pounds gas, 536,000 feet in twenty-four hours.
850. Slate.	2000. Slate.
860. Big Injun.	
800. Slate.	
940. Big Injun.	

Mouth of well is about 700 (probably 715) feet above sea level.

Guffey F. M., Pittsburgh, Pa.

No. 86 (456). Oil Well Borings. Samples from surface to oil bearing rock, 2170 feet, in the McDonald oil field. From well No. 12, on Wettengill Farm, Oakdale.

The well starts 85 to 90 feet below the coal. The specimens are taken for the most part at intervals of four or five feet for the entire depth, as shown in an upright glass tube in which five feet is represented by about half an inch.

## GROUP 43.

**Mineral Combustibles—Coal, Coke, Petroleum, Natural Gas, Etc.**

Class 292. Coal—Anthracite, semi-bituminous and bituminous; coal waste, "slack," coke and pressed coal.

Anthracite Coal Needle (No. 87), showing a vertical section of the Mammoth Bed as it appears in the mines of the **Lehigh Valley Coal Company** upon lands of the Girard estate, Schuylkill county, Pa. The coal was taken out in blocks in such a manner as to show the stratification of the entire bed, the layers of slate and coal following in their natural order and thickness. An iron frame forms the center of the shaft, around which the blocks of coal, 18 inches thick, and weighing about 900 pounds each around the base, are laid and cemented together. The construction was carried out through the generous interest and assistance of Mr. W. A. Lathrop, General Superintendent of the Lehigh Valley Coal Company. The column is about 54 feet from the base to the apex, and stands in the center of the Mining Building.

**Coxe Brothers & Company**, Drifton, Pa., ANTHRACITE COAL, in commercial sizes, from Lump to No. 3 Buckwheat with analysis.

No. 88 (499). Anthracite Coal, Buck Mountain Vein. Coxe Brothers & Company's Eckley Colliery, Lehigh Coal Region. Bed 12-15 feet thick.

No. 89 (500). Anthracite Coal, Wharton Vein. Coxe Brothers & Company's Stockton Colliery, Lehigh Coal Region. Bed 6-8 feet thick.

No. 90 (501). Anthracite Coal, Mammoth Vein. **G. P. Markle & Company**, Oakdale No. 1 Colliery, Lehigh Coal Region. Bed 20-30 feet.

**Philadelphia & Reading Coal and Iron Company**, R. C. Luther, General Superintendent, Pottsville, Pa. Anthracite Coal in commercial sizes from lumps to culm.

No. 91 (528). Shamokin Coal.

No. 92 (529). Locust Mountain Coal, Schuylkill region.

No. 93 (530). Schuylkill White Ash Coal, Schuylkill region.

No. 94 (531). Mahanoy Coal, Schuylkill region.

No. 95 (532). Shenandoah Coal, Schuylkill region.

No. 96 (533). Schuylkill Red Ash Coal, Schuylkill region.

No. 97 (534). Lorberrry Coal, Middle Creek Colliery, Schuylkill region.

No. 98 (535). Lykens Valley Coal, Brookside Colliery, Schuylkill region.

**Lehigh Valley Coal Company**, W. A. Lathrop, General Superintendent, Wilkes-Barre, Pa. Anthracite Coal in commercial sizes from lump to culm.

No. 99 (536). Red Ash Coal, Franklin Colliery, Wyoming region

No. 100 (537). White Ash, Baltimore Vein, Dowance Colliery, Wyoming region.

No. 101 (542). Mammoth Vein Coal, Spring Brook Colliery, Lehigh region.

No 102. (544). Wharton Vein Coal, Spring Brook Colliery, Lehigh region.

**Dodson Coal Company**, Audenried, Pa. Anthracite Coal in commercial sizes from lumps to culm.

No. 104 (439). Mixture of coals from Mammoth, Skidmore and Buck Mountain Veins, Morea Colliery, Schuylkill region.

## ANALYSES OF PENNSYLVANIA ANTHRACITE COALS

From the Lehigh, Wyoming & Schuylkill Regions, for the Pennsylvania Mining Exhibit, World's Columbian Exposition, Chicago, 1893. Cox Bros. & Co.'s Testing Laboratory, Drifton, Pa.

	KINDS OF COAL.	ANALYSES						
		Water at 225° F.	Volatile Combustible Matter	ASH		Fixed Carbon	Sulphur	Specific Gravity
				Per Ct.	COLOR			
LEHIGH REGION.	{ Buck Mountain Vein, Coxe Bros. & Co.'s Eckley Colliery, ..... Mammoth Vein, G. B. Markle & Co.'s Oakdale No. 1 Colliery, ..... Wharton Vein, Coxe Bros. & Co.'s Stockton Colliery, ..... Baltimore Vein (White Ash), Lehigh Valley Coal Co.'s Dorrance Colliery, ..... Red Ash Vein, Lehigh Valley Coal Co.'s Franklin Colliery, ..... Shenandoah Coal, From Philadelphia & Reading Coal and Iron Co., ..... Lykens Valley Coal, Philadelphia & Reading Coal & Iron Co.'s Brookside Colliery, ..... Lorberry Coal, Philadelphia & Reading Coal & Iron Co.'s Middle Creek Colliery, ..... Mahanoy Coal, Philadelphia & Reading Coal and Iron Co., ..... Schuylkill White Ash Coal, Philadelphia & Reading Coal and Iron Co., ..... Locust Mountain Coal, Philadelphia & Reading Coal and Iron Co., ..... Schuylkill Red Ash Coal, Philadelphia & Reading Coal and Iron Co., ..... Shamokin Coal, Philadelphia & Reading Coal and Iron Co., ..... Mixture of Mammoth, Skidmore and Buck Mountain Veins, From Dodson Coal Co.'s Morea Colliery, .....	.40 1.37 1.22 .75 .75 1.17 .70 1.07 1.27 .47 .47 .62 .45	4.25 4.05 3.40 5.32 5.47 3.87 8.70 6.07 4.00 6.37 5.95 5.80 8.97	6.80 6.55 8.55 6.52 6.30 4.95 7.12 7.47 6.82 7.22 4.47 6.20 8.65	Light Red, ..... Reddish Gray, ..... Light Gray, ..... Gray, ..... Gray, ..... Light Red, ..... Light Brown, ..... Yellowish Gray, ..... Reddish Gray, ..... Reddish Gray, ..... Reddish Gray, ..... Brown, ..... Gray,.....	88.55 88.03 86.83 87.41 87.48 90.01 83.48 85.39 87.91 85.94 89.11 87.38 81.93	.502 .543 .458 .653 .473 .568 .550 .584 .605 .563 .777 .701 .832	1.581 1.573 1.588 1.487 1.536 1.595 1.448 1.494 1.568 1.509 1.474 1.528 1.445
		1.35	4.82	4.92	Yellowish Gray, ..... Yellowish Gray, .....	88.91	.547	1.557



**State Line and Sullivan County Railroad Company**, J. O. Blight, General Manager and Superintendent, Towanda, Pa.

No. 105 (352). Coal Vein Section, showing thickness of coal bed at Bernice, Sullivan county. The coal is semi-bituminous, approaching anthracite in character. The bed is about 8 feet thick, and the annual production 150,000 tons.

**Analysis.**

Fixed carbon, .....	87.73	
Volatile matter, .....	6.56	
Ash, .....	5.90	100.19

**Berwind White Coal Mining Company**, Horatio, Jefferson county, Pa., Bituminous Coal,

No. 106 (387). Bituminous Coal Vein Section, from near Horatio, Jefferson county, showing thickness of bed 7 feet, 7 inches. A steam coal.

No. 107 (388). Bituminous Coal Vein Section, from near Aneta, Jefferson county, showing thickness of bed, 4 feet 8 inches. A steam coal.

No. 108 (425). Bituminous Coal Vein Section, from near Houtzdale, Clearfield county, showing thickness of bed, 4 feet 6 inches to 7 feet.

**Analyses.**

	<i>No. 106.</i>	<i>No. 107.</i>	<i>No. 108.</i>
Water, .....	0.984	1.090	0.844
Fixed Carbon, .....	60.860	61.028	73.292
Volatile Matter, .....	30.871	31.805	21.806
Sulphur, .....	1.124	1.042	.643
Ash, .....	6.160	5.035	3.415

**Frick, H. C., Coke Company**, Thos. Lynch, General Manager, Scottsdale, Pa.

No. 109 (402). Bituminous Coal Vein Section, Connellsville coking coal. This vein of coal, from which Connellsville Coke is manufactured, is of limited area, and extends from a point near Latrobe, on the Pennsylvania railroad, in a south-westerly direction through Westmoreland and Fayette counties, a distance of 42 miles, almost to the West Virginia State line, with an average width of 3.5 miles, covering an area of 147 square miles, and, excluding barren measures, originally contained 88,000 acres, of which there are yet 70,000 acres of available coal unmined. This coal is very clean, almost entirely free from slate, remarkably soft, easily mined, uniform in quality and thickness. The vein averages nine feet in thickness. The purity of this coal, and its chemical and physical characteristics, makes it peculiarly adapted for coking. The comparative cheapness of mining makes it possible to put coke from this district in competition with other cokes and fuels in the most distant parts of the United States, and in foreign countries.

## Analysis of Connellsville Coal.

Water, .....	1.130
Volatile Matter, .....	29.812
Fixed Carbon, .....	60.420
Sulphur, .....	.689
Ash, .....	7.949

**Shaner Gas Coal Company.** F. L. Robbins, President, Pittsburgh, Pa.  
No. 110 (426). Bituminous Coal Vein Section, showing thickness of bed in Shaner Mine, Westmoreland county. Gas and Steam Coal.

This section is one foot square and composed of strata as follows, beginning at the top :

First Layer, Slate, .....	11 inches
Second Layer, Coal, .....	42 "
Third Layer, Shale, .....	1/2 "
Fourth Layer, "Bearing In," .....	5 "
Fifth Layer, Shale, .....	1/2 "
Sixth Layer, First Bottom, .....	14 "
Seventh Layer, Shale, .....	1/2 "
Eighth Layer, Lower bottom, .....	14 "

Total Height, 7 feet, 3 1/2 inches.

## Analysis (Otto Wuth).

Carbon, .....	80.101	per cent.
Hydrogen, .....	4.345	"
Nitrogen, .....	1.078	"
Oxygen, .....	8.412	"
Sulphur, .....	.653	"
Ash, .....	5.401	"
Phosphorus, .....	.010	"
<hr/>		
Total Volatile Matter, .....	30.499	per cent.
Fixed Carbon, .....	64.100	"
<hr/>		
Specific Gravity, .....	1.256	per cent.

**Monongahela Gas Coal Company,** F. L. Robbins, President, Pittsburgh, Pa.

No. 111 (427). Bituminous Coal Vein Section showing thickness of bed in First Pool Mine, Allegheny county.

This section is one foot square and composed of strata as follows, beginning at the top :

First Layer, Slate, .....	8½ inches
Second Layer, Coal,.....	38 "
Third Layer, Shale,.....	¾ "
Fourth Layer, " Bearing In," .....	3½ "
Fifth Layer, Shale,.....	1 "
Sixth Layer, First Bottom, .....	9 "
Seventh Layer, Shale,.....	1 "
Eighth Layer, Lower Bottom,.....	13 "
Ninth Layer, Limestone,.....	3¼ "
Total Height, 6 feet, 6 inches.	

#### Analysis (Otto Wuth).

Carbon, .....	78.358	percent.
Hydrogen, .....	4.610	"
Nitrogen, .....	1.100	"
Oxygen, .....	9.397	"
Sulphur, .....	1.145	"
Ash, .....	5.383	"
Phosphorus, .....	.007	"
<hr/>		
Total Volatile Matter, .....	37.710	percent.
Fixed Carbon, .....	56.907	"
<hr/>		
Specific Gravity, .....	1.287	percent.

**Pittsburgh Consolidated Coal Company, F. L. Robbins, President,**  
Pittsburgh, Pa.

No. 112 (428). Bituminous Coal Vein Section, showing thickness of bed in Jumbo Mine, Washington county.

This section is one foot square and composed of strata as follows, beginning at the top :

First Layer Slate,.....	3 inches
Second Layer, Coal,.....	52½ "
Third Layer, Slate, .....	½ "
Fourth Layer, Coal,.....	5 "
Fifth Layer, Limestone,.....	1 "
Total Height, 5 feet 2 inches.	

**Analysis, (Otto Wuth).**

Carbon,.....	76.603 per cent.
Hydrogen, .....	4.460       “
Nitrogen, .....	1.050       “
Oxygen, .....	10.224       “
Sulphur,.....	1.304       “
Ash, .....	6.351       “
Phosphorus,.....	.008       “
<hr/>	
Total Volatile Matter,.....	37.352 per cent.
Fixed Carbon,.....	56.397       “
<hr/>	
Specific Gravity,.....	1.303 per cent.

**Cooke, C. J.,** Bellefonte, Centre county, Pa.

No. 113 (506). Bituminous Coal Vein Section, Woodland Red Ash Coal, Clearfield county. Height of section 3 feet 6 inches.

**Standard Coal and Coke Company,** Williamsport, Pa.

No. 114 (547). Coking Coal, and Coke for foundry, furnace and domestic use. Coal from Glen Fisher, Elk county.

**Analysis of Coke.**

Fixed Carbon,.....	89.876
Ash, .....	8.105

**Eclipse Lubricating Oil Works,** Franklin, Pa.

Exhibits of all natural crude petroleum produced in the State, with distinctive characteristics; also, of manufactured oils and products made in the State from crude Pennsylvania petroleum.

No. 118 (502). Burning Oils and Waxes, or products from the distillation of tar, from the Atlantic Refining Company, Philadelphia.

No. 119 (503). Crude, refined and lubricating petroleum products from the Eclipse Oil Works.

The installation of this exhibit is exceptionally fine. The bottles are specially made for the purpose, with flat parallel sides, each bearing the State coat of arms in gold and a specific label. It is, without doubt, the most elegant display of petroleum products ever made.



### COMPRESSED FUEL.

**Reading Anthracite Compressed Fuel Company**, Mahanoy City, Pa.

No. 115 (118). Compressed Block Compound of Anthracite Coal Dust and Coal Tar Pitch.

No. 116 (119). Ditto, Compound of Clearfield Bituminous Coal and Coal Tar Pitch.

No. 117 (120). Ditto, compound of Texas lignite or brown coal and Venezuela natural pitch.

Class 293. Asphaltite and asphaltic compounds—Uintaite, wortzilite grahamite, albertite, bitumen, mineral tar, amber.

Class 294. Petroleum—Illuminating and lubricating oil.

### GROUP 44.

#### Building Stones, Marbles, Ornamental Stones and Quarry Products.

Class 296. Building Stone, granites, slates, etc., rough hewn, sawed or polished—For buildings, bridges, walls, or other constructions, or for interior decorations, or for furniture.

Marble, white, black, or colored.—Stalagmitic marbles, onyx, brecciated marbles, silicified wood, agates, jaspers, porphyries, etc., used in building, decoration, statuary, monuments, vases, or furniture.

**Chronister, J. C. R.**, New Oxford, Adams county, Pa.

No. 120 (31). Limestone, for lime manufacture and building. Production 20,000 bushels annually.

**McIlvain & Brother**, Bellemonte, Pa.

No. 121 (32). Limestone from 12 miles east of Lancaster, Pa. For lime, building and ballast. An old quarry worked for fifty years. Annual output 10,000 cubic yards.

#### Analysis.

Calcium carbonate, .....	59.5
Magnesium carbonate, .....	36.9
Insoluble, .....	3.2
Moisture, .....	0.04

**Acme Lime Company**, Avondale, Chester county, Pa.

No. 122 (213). Limestone, Barker Station, Chester county. For bridges, building and crushed stone.

No. 123 (214). Limestone, Baker Station, For building and fluxing stone.

### Analyses and Tests.

	No. 122.	No. 123.
Calcium carbonate,.....	58.52	83.39
Magnesium carbonate,.....	3.87	12.42
Iron and aluminum, .....	1.91	0.39
Insoluble, .....	36.27	4.65
Soluble silica,.....	0.07	0.04

No. 122. Test, per square inch, Edge, 10.145 lbs., Bed, 18.040 lbs.

“ “ 2 inch cube, “ 43.170 “ “ 76.027 lbs.

No. 123. Test, per square inch, Edge, 12.112 lbs., Bed, 12.607 lbs.

“ “ 2 inch cube, “ 49.740 “ “ 51.724 lbs.

**Corson, G. & W. H.,** Plymouth Meeting, Pa.

No. 124 (228). Limestone, White Marsh township, Montgomery county. For building purposes and the manufacture of lime.

### Analysis.

Calcium carbonate,.....	52 per cent.
Magnesium,.....	46 “
Silica, .....	1 “

**Rothenberger, D. & L.,** Sigmund, Pa.

No. 125 (229). Limestone, Lehigh county. For lime manufacture only. Quarry worked for sixty years. Annual output, 20,000 bushels of lime.

**Carr, Millard,** Lapps, Pa.

No. 126 (230). Limestone, for building purposes, and manufacture of lime.

**Conshohocken Stone Quarry Company,** Philadelphia, Pa.

No. 127 (245). Limestone, West Conshohocken, Pa. For foundations and buildings.

Tests, compression per square inch, on end, 14.090, pounds, on bed, 16.340 pounds.

**Chestnut Hill Iron Ore Company,** Columbia, Pa.

No. 128 (256). Limestone, near Columbia, Pa.

### Analysis.

Calcium carbonate,.....	.86
Magnesium carbonate,.....	.7
Insoluble, .....	.7

No. 129 (265). Limestone, Wrightsville, York county. For lime and fluxes.

#### Analysis.

Calcium carbonate, .....	97.1
Magnesium carbonate, .....	2.6
Insoluble, .....	3

**Leiby, Isaac U.**, Virginville, Berks county, Pa.

No. 130 (267). Limestone, very durable, extensively used for buildings and bridges. The quarry has been worked for seventy years.

**McAteer, H. J.**, Alexandria P. O., Huntingdon county, Pa.

No. 131 (292). Limestone, Union Fur Station. For fluxing and railroad ballast.

#### Analysis.

Silica, .....	1.250
Iron and Alumina, .....	0.800
Lime, .....	51.964
Magnesia, .....	1.009
Phosphorus, .....	0.007

**Deppen, S. R.**, Robeson, Berks county, Pa.

No. 132 (435). Limestone, near Robeson. For lime.

#### Analysis.

Silica, .....	1.38
Iron and alumina, .....	1.40
Calcium carbonate, .....	94.44 CaO 52.84 CO <sub>2</sub> 41.60

**Bittinger & Eberly**, Hanover, York county, Pa.

No. 133 (223). Limestone. For lime and building purposes.

**McIlvain, George D.**, Bellemonte, Pa.

No. 134 (226). Limestone, Pequa Valley. For building and land lime.

Calcium carbonate, .....	59.50
Magnesium carbonate, .....	36.90
Loss, .....	3.60

**Smith, James B.**, Reedsville, Pa.

No. 135 (349). Limestone, Honey Creek Station. Ornamental work.

#### Analysis.

Calcium carbonate, .....	83.24
Magnesium carbonate, .....	3.45
Iron, .....	0.53

**Schweyer & Liess, King of Prussia, Pa.**

No. 136 (498). Dark blue and grey marble, King of Prussia, Montgomery county.

*a.* Slab of dark blue marble 16 feet 2 inches by 6 feet 9 inches.

*b.* Cube of marble.

*c.* Two slabs of marble 1 foot square.

*d.* Two slabs of marble 2 feet square.

**Analysis (G. G. Pond).**

Carbonate of Lime,.....	98.157 per cent.
Silica,.....	.771 "
Alumina,.....	.167 "
Ferrous Oxide,.....	.542 "
Magnesia,.....	.509 "
Phosphoric Acid,.....	.048 "
Carbonaceous Matter Organic, .....	.132 "
	<hr/>
	100.326
Specific Gravity, .....	2.729

**Brookside Club, E. R. Payne, Secretary, Williamsport, Pa.**

No. 137 (449). Black Marble, Lycoming county. A stone of fine black color, taking a good polish. Recently discovered. Area and value not known.

**Avondale Marble Company, Avondale, Chester county, Pa.**

No. 138 (554). Statuary Marble, borings from a bed recently discovered, but not yet uncovered. Highly recommended, as a marble, for sculpture and monumental purposes.

**Analysis.**

Calcium carbonate, .....	58.01
Magnesium carbonate, .....	40.38
Quartz, Mica, &c., .....	1.61
	<hr/>

Absorption, 0.022 per cent.

Crushing strength, 22,140 pounds per square inch.

**Williams C. K. & Company, Easton, Pa.**

No. 139 (548). Marble—Table-top of green (Serdantique) marble, from quarry at Easton, Pa.

**Spahr, H. R., Dompit, Pa.**

No. 140 (424). Limestone.



**Meyer, Abraham**, Cogan House, Hogden Run, Lycoming county, Pa.  
No. 141 (505). "Oolitic Limestone." The specimen is described as "an extremely hard, close grained Silicious limestone with Oolitic quartz grains."

**Hendricks, Winfield**, Schuylkill Haven, Pa.

No. 142 (259). Sandstone, one mile from Pottsville. For platforms, coping, steps, sills, etc. Stone runs very large 20-30 feet by 16 feet and 4-10 inches in thickness. The quarry has been worked for 50 or 60 years.

**Wieland, George R.**, State College, Centre county, Pa.

No. 143 (251). Siliceous Oolite,  $1\frac{3}{4}$  miles northwest of State College. Are Oolitic stone rather difficult to work, but taking a fine polish and suitable for small ornamental purposes. Of especial scientific interest.

#### Analysis (G. R. Wieland).

Silica, .....	99.22
Ferric oxide, .....	.01
Alumina, .....	.15
Lime, .....	.22
Loss on ignition, .....	.40

**Snyder Brothers**, Curwensville, Clearfield county, Pa.

No. 144 (538). Grey Sandstone. The quarry has been only recently opened, but it is very extensive and the stone is of excellent quality for railroad bridges and heavy work. The border stone enclosing the Pennsylvania Mining Exhibit at Chicago, is from this quarry.

#### Analysis.

Silica, .....	96.27
Alumina, .....	1.63
Iron, .....	1.35
Lime, .....	trace
Magnesia, .....	0.61
Alkalies, .....	0.20
Water and organics, .....	0.44

**Senger, Frank**, Erie, Pa.

No. 145 (423). Sandstone, LeBoeuf, Erie county, Pa.

**Stark, H. F.**, Greensburg, Pa.

No. 146 (420). Sandstone "Bull Rock," Bolivar, Pa.

**McManus & Reilly, Philadelphia, Pa.**

No. 147 (421). Sandstone, Pomeroy Stone, Chester county. Very hard and difficult to work. For heavy backing and ballast.

No. 148 (422). McGee's Mills sandstone, McGee's Mills, Clearfield county, Pa.

**Analyses (G. G. Pond).**

	<i>No. 147.</i>	<i>No. 148.</i>
Silica,.....	93.983	97.985
Alumina,.....	1.551	0.238
Ferric Oxide,.....	1.321	0.912
Lime,.....	0.993	0.110
Magnesia,.....	0.469	0.139
Potassa,.....	1.428	trace.
Soda,.....	trace.	trace.
Water,.....	0.330	0.421
	<hr/> 100.065	<hr/> 99.805

**Sebring, H. & Sons, Vanport, Pa.**

No. 149 (264). Grey sandstone.

**Gring, D.,** President Newport & Sherman's Valley Railroad Company, New Germantown, Pa.

No. 150 (437). White Sandstone, New Germantown, Perry county.

**Blernby, Christian, Lycoming, Pa.**

No. 151 (448). Mountain Red Sandstone. Bobst Mountain, Lewis township, Lycoming county.

**Oliver, Paul A., Oliver's Mills, Pa.**

No. 152 (4). Laurel Run Red Stone, Laurel Run. Carved window jamb.

**Analysis:**

Silica,.....	94.00
Ferric Oxide,.....	1.98
Lime,.....	1.10
Magnesia,.....	
Volatile, at red heat,.....	1.92

**Motsch, Alban, Erie, Pa.**

No. 153 (69). Foundation Stone. "Blue Slate Stone," shore of Lake Erie, near Erie, Pa.

**Taylor, David H., Freeport, Pa.**

No. 154 (215). Sandstone.

**Stuempfle, David, Williamsport, Pa.**

No. 155 (217). Brown Stone, Jersey Mills, Lycoming county.

**Pittsburgh Stone Company, Pittsburgh, Pa.**

No. 156 (224). Sandstone. Layton's Station, Fayette county.

**Brinkley, D. L., Adamstown, Lancaster county, Pa.**

No. 157 (233). Red Sandstone.

**Carson, Thomas, Layton's Station, Fayette county, Pa.**

No. 158 (234). Sandstone from banks of Youghiogeny river, Fayette county.

**Hartman, Joseph, & Son, Pittsburgh, Pa.**

No. 159 (235). Beaver county Dimension Sandstone, New Galilee, Beaver county. Geologically the Upper Freeport and Mahoning Sandstone.

**Guinned, Fred., Allegheny City Pa.**

No. 160 (237). Beaver Valley Sandstone, Beaver county.

**National Cement Company, Pittsburgh, Pa.**

No. 161 (238). Beaver Valley Sandstone, Wampum, Lawrence county, six cubes from different strata of quarry.

**Knox, J. P. & E. A., Allegheny City, Pa.**

No. 162 (239). Beaver County Sandstone.

**Davis & Harris, Rock Point, Pa.**

No. 163 (244). Beaver Valley Sandstone, near Beaver Falls, Lawrence county.

**Wilson Brothers & Company, Ellwood City, Pa.**

No. 164 (240). Beaver Valley Sandstone, Ellwood Junction, Pa. Two varieties.

**DeHuff, A. G., Lebanon, Pa.**

No. 165 (241). Mount Gretna Sandstone, Mount Gretna, Lebanon county.

**West, George, Picture Rocks, Pa.**

No. 166 (254). Laurel Run stone, Picture Rocks, Pa.

**McWilliams, George, Canonsburg, Pa.**

No. 167 (257). Freestone, Canonsburg.

**Allegheny Valley Railway Company, Pittsburgh, Pa.**

No. 168 (343). Quartzose Sandstone, Bell, Jefferson county.

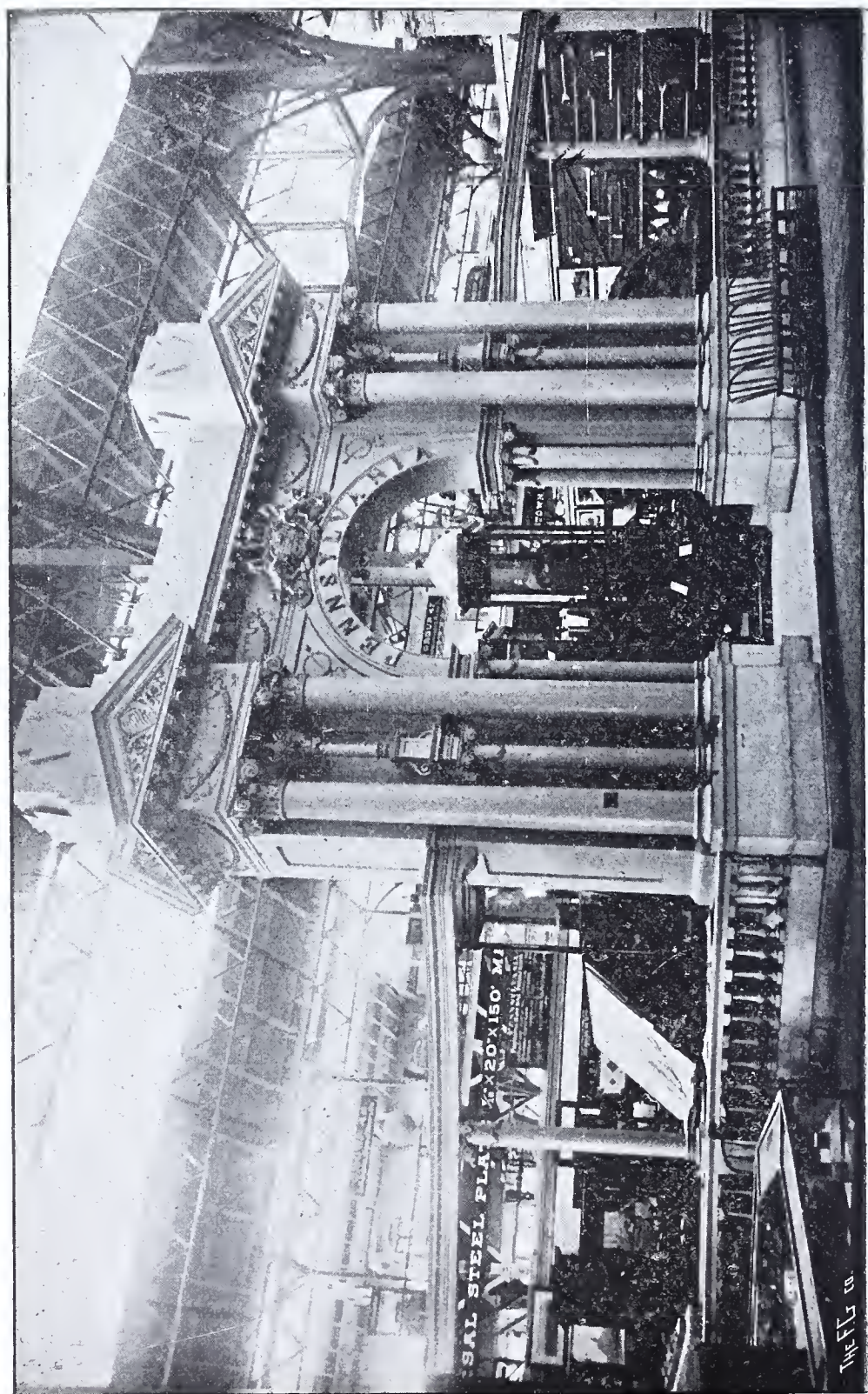
**Walker, R. J. C., Williamsport, Pa.**

No. 169 (345). Sandstone, Pine township, Lycoming county.

No. 170 (346). Greyish Sandstone, Pine township, Lycoming county.



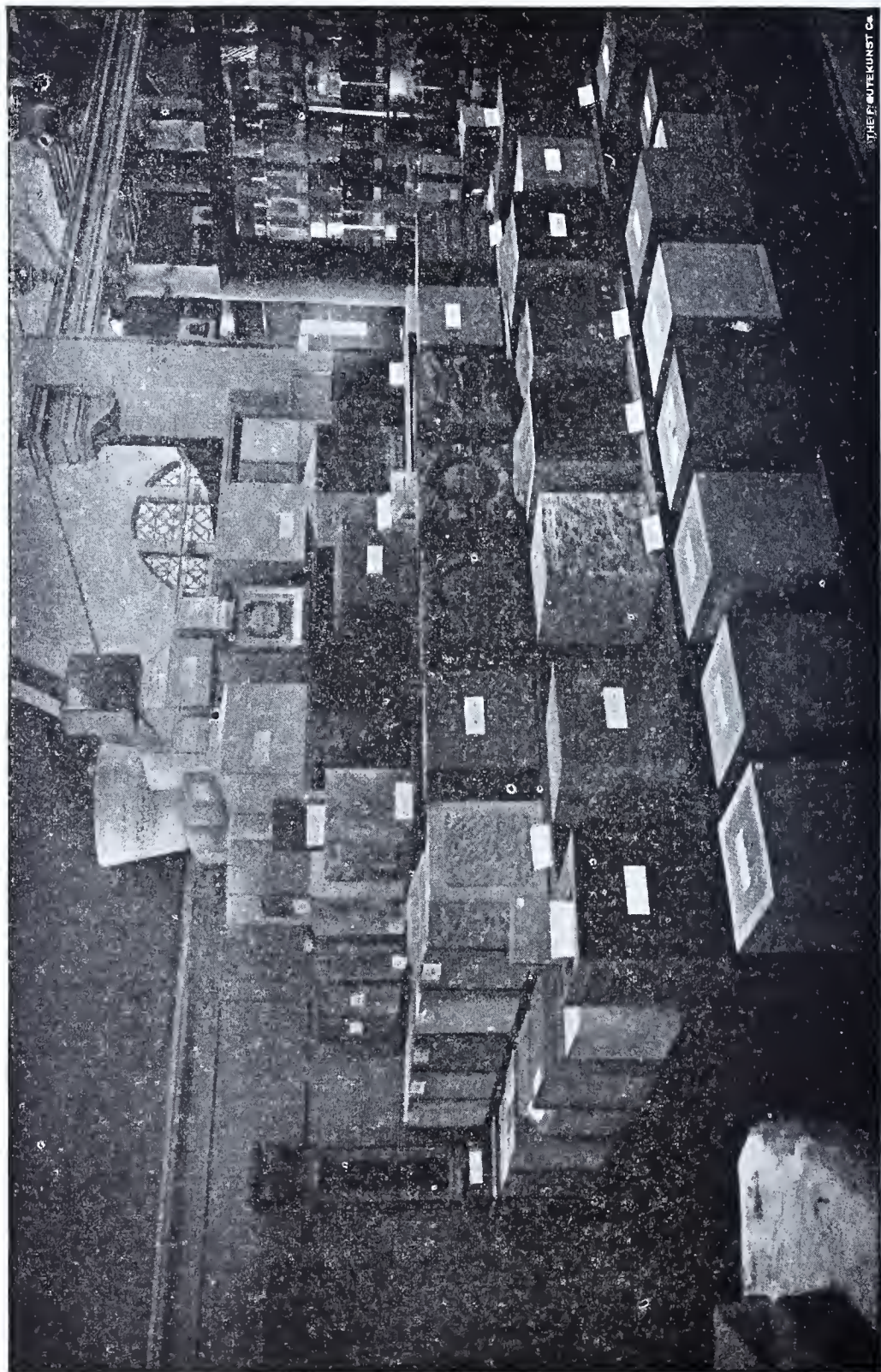




Mining Exhibit







THE FUTURE KUNST CA

Hewn Stone—Mining Exhibit.

**Walker's Mills Quarry Company, Walker's Mills, Pa.**

No. 171 (348). Sandstone, Walker's Mills, Allegheny county.

**Analysis.**

Water, .....	2.48
Silica, .....	80.87
Iron oxide, .....	5.05
Manganese, .....	0.15
Alumina, .....	9.22
Lime, .....	0.21
Magnesia, .....	0.83
Alkalies, .....	1.19

Crushing strength, six inch cube = 343,200 pounds or 9,470 pounds to the square inch.

**Griggs, Daniel, Montoursville, Pa.**

No. 172 (357). Sandstone, Montoursville, Lycoming county.

**Consolidated Stone and Mining Company, Pittsburg, Pa.**

No. 173 (419). Lawrence county Sandstone, Rock Point.

**Swatara Brown Stone Company, Lebanon, Pa.**

No. 174 (451). Brown Sandstone, Hockersville.

**Analysis (G. G. Pond).**

Silica, .....	91.517
Ferric oxide, .....	2.021
Alumina, .....	3.804
Lime, .....	0.499
Magnesia, .....	0.217
Water, .....	0.738
Alkalies and Loss, .....	1.204

**Hummelstown Brown Stone Company, Hummelstown, Pa.**

No. 175 (407). Brown sandstone, Waltonville, Dauphin county.  
Three cubes.

**Analysis.**

Silica, .....	90.341
Ferric oxide, .....	1.694
Ferrous oxide, .....	0.740
Alumina, .....	4.350
Lime, .....	0.953
Magnesia, .....	0.167
Potassa, .....	1.299
Soda, .....	0.188
Water, .....	0.612



**Platt, C. C.,** State Run, Pa.

No. 176 (33). Sandstone, State Run Stone Quarries.

**Stuernpfle, David,** Williamsport, Pa.

No. 177 (216). Pine Creek, Blue Storm, Jersey Mills, Lycoming county.

**Tiffany, H. D.,** Nicholson, Pa.

No. 178 (227). Wyoming Blue Stone. Nicholson.

Breaking weight, ..... 4,000 pounds

Resistance to crushing, ..... 84,500 pounds

**Morris, E. S.,** Quarry Glen, Bradford county, Pa.

No. 179 (236). Blue Stone, Quarry Glencarlucchi, Frank, Scranton, Pa.

No. 180 (243). Wyoming Blue Stone, Nicholson. Extensively used for building, trimming, flagging, etc.

**Feeney, John,** Walker's Mills, Allegheny county, Pa.

No. 181 (252). Blue Stone, Walker's Mills.

#### Analysis.

Silica, .....	80.87
Iron, .....	5.05
Alumina, .....	9.22
Lime, .....	0.21
Alkalies, .....	1.19

Test 9,470 pounds to square inch.

**Squires, R. S.,** Nicholson, Pa.

No. 182 (263). Nicholson Blue stone, Wyoming county.

**Amy & Company,** Greenville, Pa.

No. 183 (266). Greenville Blue stone, Greenville, Mercer county.

**Fisher & Son,** Perkiomenville, Montgomery county, Pa.

No. 184 (260). Belgian blocks.

**Pennsylvania Granite Block Company,** Philadelphia, Pa.

No. 185 (218-222). Granite belgian blocks, St. Peters, Chester county.

**Johnson, R. H.,** Wayne, Delaware county, Pa.

No. 186 (294). Trap Rock, Conestoga road, Wayne, Pa.

**Mayer, Dr. T. H.,** Willow street, Lancaster county, Pa.

No. 187 (225.) Gneiss rock, near Willow street.

**Hibberd, Jesse,** Lima, Pa.

No. 188 (250.) Gneiss and Granite, Glen Riddle Station, Delaware county, two cubes.

**Knauer, David,** St. Peter's, Chester county.

No. 189 (231). Granite, St. Peter's, Chester county. For monumental work, dimension stone, paving, etc.; resistance to crushing 1,500 tons per cubic foot.

**McSpadden, J. C.,** Rockwood, Pa.

No. 190 (242). Somerset Brown Granite, Pine Grove Station, near Rockwood.

#### Analysis.

Silica, .....	43.961
Ferric oxide, .....	.909
Alumina, .....	0.544
Calcium carbonate, .....	53.741
Magnesium carbonate, .....	.705
Phosphoric acid and alkalies, .....	Trace

**Leiper & Lewis,** Chester, Pa.

No. 191 (248). Granite-Leiperville Grey Stone, Avondale, Delaware county.

**McManus & Reilly,** Philadelphia, Pa.

No. 192 (253). Conewago Granite, Conewago, Lancaster county.

**Eisenbrown Sons & Co.,** Reading, Pa.

No. 193 (261). Pennsylvania Diamond Granite, Gibraltar, Pa. For monumental and building purposes. Takes a high dark polish and resembles the Black Diamond Granite of Maine. Hammers up very light, showing a great contrast between polished and cut work.

**Lightner, Nathaniel,** Gettysburg, Pa.

No. 194 (262). Diabase Granite, near Gettysburg, Adams county. For monumental and building purposes.

**Pennsylvania Granite Block Company,** Philadelphia, Pa.

No. 195 (328). Lyenite Granite, Chester county. For monumental and paving use.

**Johnson, Samuel J.,** Morton, Delaware county, Pa.

No. 196 (342). Granite, Springfield, Pa. For building and curbing.

**Jones, W. W.,** Belfast, Northampton county.

No. 199 (1). Roofing Slate, Hard Vein Slate, Belfast, Pa. Large block.

#### Annual Output.

Roofing slate, .....	800 squares
Fence posts, .....	160,000
Flagging, .....	48,000

**McKenna, D.,** Slatington, Pa.

No. 200 (3). Slate in two large slabs. Slatington, Pa.

**Lobb & Sons, William,** Pen Argyl, Northampton county, Pa.

No. 201 (5). Roofing slate. Pen Argyl. Average annual output, 25,000 squares.

**Hower, F. M.,** Danielsville, Northampton county, Pa.

No. 202 (9). Block of Roofing Slate. Blue Mountain Vein. Le-high region.

No. 203 (10). Block of School or Blackboard Slate.

Annual output: Roofing and Blackboard Slate, 7,500 tons, finished material.

**Crown Slate Company,** Portland, Pa.

No. 204 (82). Block of Slate, Pen Argyl Slate District. For building and slate mantels. Annual output, 25,000 feet.

**Globe Hard Vein Slate Company,** Portland, Pa.

No. 205 (83). Block of Slate, Hard Vein Slate District. For building and roofing. Annual output, 12,000 to 15,000 squares, and 100,000 square feet.

**Imperial Slate Company,** Wind Gap, Northampton county, Pa.

No. 206 (87). Block of Slate and Slabs of Roofing, School and Blackboard Slate.

#### Average Annual Output:

School slate, .....	500,000 square feet.
Roofing, .....	8,000      “
Blackboard, .....	8,000      “

**Old Bangor Slate Company,** Bethlehem, Pa.

No. 207 (553). Pavilion of Slate with domes, showing the use of naturally curved slate in construction. Also, block of slate as it comes from the quarry. The same slate split. Slate workers' tools. Marbleized slate. Slate bricks. Photographs (2) of Bangor Quarries.

No. 208 (88). Two blocks, ribbon and clear slate. Annual output, about 40,000 squares.

**Evans, Edward W. & Co., (Limited),** West Bangor, York county, Pa.  
No. 209 (89). Blocks and Slabs of Slate, Peach Bottom District,  
West Bangor.

**Analysis.**

Silicic acid, .....	55.880
Titanic acid, .....	1.270
Sulphuric acid, .....	0.022
Alumina, .....	21.849
Ferrous Oxide, .....	9.034
Manganeous oxide, .....	0.586
Cobaltous oxide, .....	Trace.
Lime, .....	0.155
Magnesia, .....	1.495
Soda, .....	0.460
Potash, .....	3.640
Carbon, .....	1.974
Water, .....	3.385
Iron bisulphide, .....	0.051
<hr/>	
Total, .....	<u>99.800</u>

**Jones, R. L. & Co.,** Delta, York county, Pa.

No. 210 (214). } Blocks and Slabs of Slate.  
No. 211 (350). } Peach Bottom District.  
No. 212 (351). } Roofing Slate.

**Peach Bottom Slate Producer's Association,** Delta, Pa.

No. 213 (492). General exhibit of Peach Bottom Roofing Slate,  
sawed, split and dressed.

**Analysis of Peach Bottom Slate (Booth, Garrett & Blair).**

Silica, .....	58.370	per cent.
Protoxide of iron, .....	10.661	"
Alumina, .....	21.985	"
Lime, .....	0.300	"
Magnesia, .....	1.203	"
Alkali, .....	1.933	"
Sulphur, .....	0.107	"
Carbonic acid, .....	0.390	"
Carbon, .....	0.930	"
Water, .....	4.030	"
Titanic acid, .....	Traces.	"
Oxide of Manganese, .....	Traces.	"
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99.909 per cent.



**Compression Test** (State College, Pa., March, 1893).

First specimen—(pressure applied parallel to natural cleavage).  
Fractured at 22,000 pounds, crushed at 48,200 pounds.

Second specimen—(pressure applied perpendicular to the natural cleavage). Fractured at 41,000 pounds, crushed at 94,800 pounds.

First specimen crushed at 385.6 tons per square foot.

Second specimen crushed at 758.4 tons per square foot.

Specimens used were three (3) inch cubes.

**East Bangor Consolidated Slate Company**, East Bangor, Pa.

No. 214 (482). Two blocks of slate, Bangor District.

**Blue Valley Slate Company**, Slatington, Pa.

No. 215 (90). Blocks and slabs of slate from Lehigh Slate District.

**Average Annual Output.**

Roofing slate,.....	9,600 squares..
School, .....	480,000 squares..
Blackboard, .....	96,000 feet.
Mill Rock, .....	12,000 feet.

**Jackson Brothers**, Pen Argyl, Northampton county, Pa.

No. 216 (546). Roofing Slate. Annual output, 10,000 squares.

**McLees, L. B. & Company**, Philadelphia, Pa.

No. 217 (549). Block of slate showing a variety of finishes, viz :

Sawed end.	Planer finish.
Finished end.	Rubbing bed finish.
Natural split.	Hand finish.
Natural sculp.	

**Big Bed Slate Quarry Company**, David Williams, Superintendent, Steinsville, Lehigh county, Pa.

No. 218 (293). Core of slate from boring through the large vein of quarry in Albany township, Berks county, at an angle of 40° to split or cleavage. This bed is 24 feet thick of pure slate. Average annual output, 2,500 to 3,000 squares.

**Meyer, Abraham**, Cogan House, Lycoming county, Pa.

No. 219 (314). Pyrophyllite Slate, Lycoming county.

**Walker, R. J. C.**, Williamsport, Pa.

No. 220 (374). Pyrophyllite or pencil slate, Cogan House township, Lycoming county.

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GROUP 45.

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Grinding, Abrading and Polishing Substances.

Class 297. Grindstones, hones, whetstones, grinding and polishing materials, sand, quartz, garnet, crude topaz, diamond, corundum, emery in the rock and pulverized, and in assorted siezsand grades.

**Carborundum Company, The,** Monongahela, Pa.

No. 221. Carborundum—a manufactured abrasive material, prepared by treaty sand and carbon in a close furnace with a powerful electric current. It is a new product, introduced but a few months since. It is recommended as a substitute for the diamond.

**Abrasive Material Company,** John Hoskin, President, Philadelphia, Pa.

No. 222 (552). Corundum, Chester county rock and grain in various sizes.

This corundum is said to be distinguished for hardness, purity, amorphous grain and infusibility.

**Pittsburgh Crushed Steel Company,** (Limited), Pittsburgh, Pa.

No. 222a. Samples of crushed steel and steel emery. A manufactured product, prepared from crucible steel, for abrasive and polishing work. The method of preparation is not very clearly set forth. The irregular grains are extremely hard, but not brittle, and the material in its various forms is much used for cutting and polishing hard stone, glass, etc.

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GROUP 46.

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Graphite and its Products; Clay and other Fictile Materials and Their Direct Products; Asbestos, etc.

Class 298. Crude graphite, in blocks and in powder;

Class 299. Graphite and compounds for coating iron.

Class 300. Graphite lubricants.

Class 301. Electrotypers' graphite.

Class 302. For pencils, crayons, etc.

Class 303. Graphite crucibles, and melting pots.

**American Plumbago Mining Company,** Reading, Pa.

No. (223 132). Graphite, crude and prepared, in various forms. Near Phoenixville, Chester county.

**Jones, David**, Philadelphia, Pa.

Nos. 224-235 (375-389). Graphite, crude and prepared, in various forms. From Penn Plumbago Company, Pikeland, Chester county.

Class 304. Clays, kaolin, silix and other materials for the manufacture of porcelain faience, and of glass, bricks, terracotta, tiles, and fire-brick ; various examples.

**Whillidin Pottery Company**, Philadelphia, Pa.

No. 236 (14-15). Pottery clay, and samples of common red pottery.

**Smith, Willoughby**, Womelsdorf, Pa.

No. 237 (494). Pottery. Flowerpots and jugs.

**Moll, B. H.**, Alburtis, Lehigh county, Pa.

No. 238 (34). Paper Clay.

**National Brick and Tile Company**, Bradford, Pa.

Nos. 239-240 (316-318). Shale and Shale Brick. Average annual output, about 5,000,000 bricks.

**Mill Hall Brick Works**, Lock Haven, Pa.

Nos. 241-242 (454-455). Red Shale, Mill Hall, Clinton county ; also Shale bricks.

The plant for the manufacture of bricks, has recently been established.

### TEST OF BRICKS (Otten & Westinhoff).

Size, 1.052 x 1.052 ; area, 1.107 square inches ; broke at 21,130 pounds ; ultimate strength per square inch, 19,105. Spalled at 13,800 pounds = 12,477 pounds per square inch.

### TESTS (J. B. McIntyre).

Number 1 hard brick, not tested ; number 2 medium hard brick, extreme crushing resistance 100 tons ; No. 3 Salmon bricks, stood 100 tons, and would have stood more, but we do not use machine above that.

**Peerless Brick Company**, Philadelphia, Pa.

No. 243 (541). Peerless Pressed Bricks.

**Williamsport Brick Company**, Williamsport, Pa.

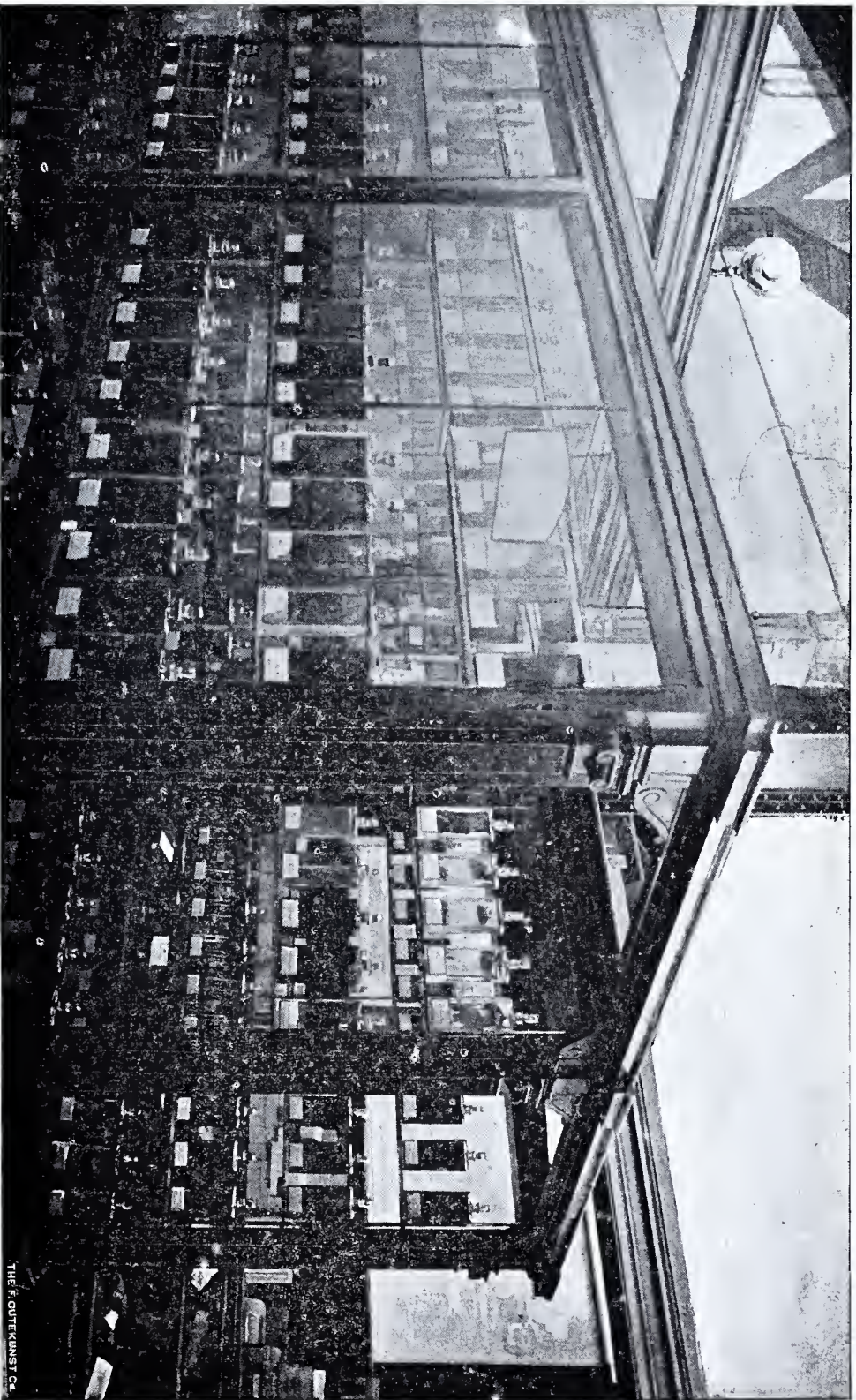
No. 244 (545). Red, Buff and Granite Clays and Bricks. Fancy pressed bricks made by the dry press process.

**Griffen Enameled Brick Company**, Oaks, Montgomery county, Pa.

No. 245 (443). Crude Kaolin, Brandywine Summit, used in the enamel.

No. 246 (444). Enameled bricks, various colors.



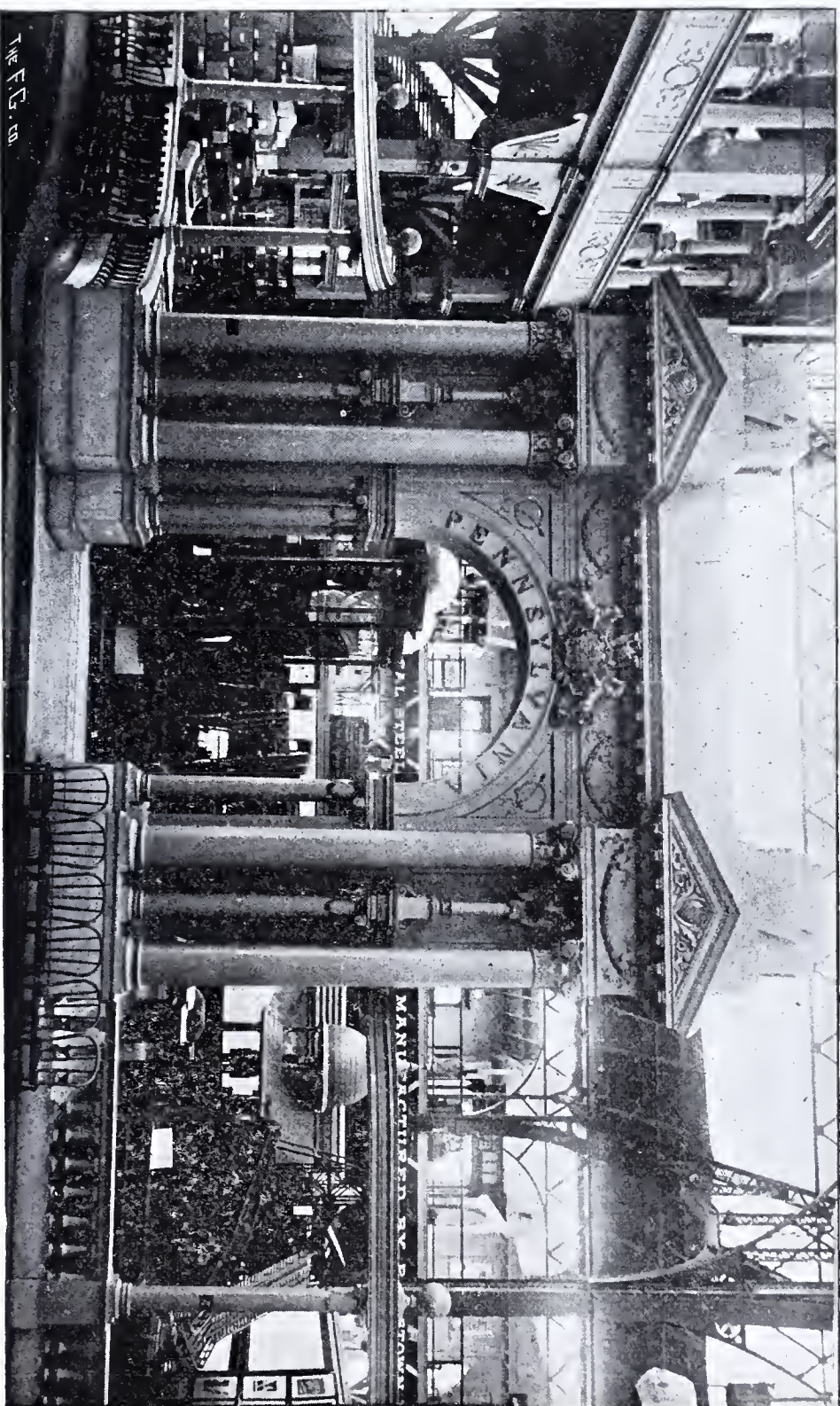


Petroleum Products—Mining Exhibit.

THE F. GUTHE-KUNST Co.







Mining Exhibit.



**Star Encaustic Tile Company, Limited, Pittsburgh, Pa.**

No. 247 (113). A series of specimens to illustrate the process of manufacture of plain and encaustic tiles, from raw material to finished products, viz: raw clays, dry slip dust, unburnt tile, plain and encaustic tiles in various colors or designs.

**Beaver Falls Art Tile Company, Beaver Falls, Pa.**

No. 248 (539). A series of specimens showing the process of manufacture, viz, dust pressed tile, tile in sagger and fired in bisque, tile in sagger and fired with glaze, glaze in powder and fired on tile to show effect of heat in developing color. Also embossed tiles glazed to show how the glaze brings out various effects with a single color.

**Brandywine Summit Kaolin and Feldspar Company, Philadelphia, Pa.**

No. 249 (73-74). Feldspar Brandywine Summit.

**Analysis (G. G. Pond).**

Silica, .....	65.607
Alumina, .....	16.916
Lime, .....	0.164
Magnesia, .....	0.978
Potassa, .....	12.915
Soda, .....	2.114
Loss on ignition, .....	0.496

No. 250 (75). Kaolin-China clay.

**Analysis (G. G. Pond).**

Silica, .....	46.278
Alumina, .....	36.250
Ferric oxide, .....	1.644
Lime .....	0.192
Magnesia, .....	0.321
Potassa, .....	1.685
Soda, .....	0.851
Loss on ignition, .....	13.535

No. 251 (366). Chinaware. Articles manufactured from the feldspar priparand by this company. From Knowls, Taylor & Knowler Company, Liverpool, Ohio.

No 252 (522). Same as the preceding, but manufactured by the International Pottery Company, Trenton, N. J.

**MacBeth Company, George A., Pittsburgh, Pa.**

The constituents of glass and mixtures for melting pots.

No. 253 (404). Sand for window glass and green bottles.

No. 254 (405). Salt cake for window glass.



- No. 255 (406). Limestone for window glass.  
 No. 256 (407). Mixture for window glass.  
 No. 257 (408). Lump of window glass.  
 No. 258 (409). Soda ash for lime glass.  
 No. 258a (410). Lime for lime glass.  
 No. 259 (411). Lump of lime or white glass.  
 No. 260 (412). Sand for lead or flint glass.  
 No. 261 (413). Oxide of lead for flint glass.  
 No. 262 (414). Carbonate potash (pearlash) for flint glass.  
 No. 263 (415). Mixture for flint glass.  
 No. 264 (416). Lump of flint glass.  
 No. 265 (523). Lump of colored glass.  
 No. 266 (525). Glass globes, bowls and lamp chimneys.  
 No. 267. Optical glass, specimen of the first optical glass made in America.

**Speer White Sand Company**, Nos. 268-275 (18-25). Varieties of Sand from Empire and Juniata Works, Huntingdon, county.

#### Analyses.

	<i>Juniata No. 1.</i>	<i>Juniata No. 2.</i>
Silica,.....	99.64	99.44
Oxide iron,.....	0.04	0.10
Alumina,.....	0.17	0.21
Lime, .....	0.11	0.17
Magnesia, .....	trace	0.04

**Dull, C. P.**, McVeytown, Mifflin county, Pa.

Nos. 276-277 (76-77). Sand Rock and Sand, McVeytown. This sand occurs in a deposit about 100 feet thick, dipping at angle of 45°. It is said to contain 98 to 99 per cent. of silica, and is used in fine glass manufacture. The annual output is 20,000 tons.

**Enterprise Sand Company**, Vineyard Station, Mifflin county, Pa.

Nos. 278-279 (84-85). Sand rock and heat-dried sand.

#### Analysis.

Silica,.....	99.977
Alumina,.....	0.14
Lime,.....	0.09

**Macklin & Stevenson**, Mcveytown, Mifflin county, Pa.

No. 280 (86). Sand, No. 1, Heat-dried.

#### Analysis.

Silica,.....	99.933
Alumina, .....	.023
Titanic acid,.....	.044

**Duncan, Peter S.**, Ore Hill.

No. 281 (115). Sand. Two qualities, white and yellow.

**Leathers, R. C.**, Mount Eagle, Pa.

No. 282 (116-273). Sand. Two varieties of Sand rock, Bald Eagle Valley, Center county.

**Beck, James D.**, Exton, Chester county, Pa.

No. 283 (117). Sand. Used in bottoms of heating furnaces, by steel and copper manufacturers. Demand comes from mine States and from Canada.

#### FIRE CLAYS.

Unless otherwise specified, each exhibit of fire clays includes :

1. A cube or lump of fire clay.
2. A portion of calcined clay.
3. Fire bricks made from the clay.

**Clearfield Fire Brick Company**, Clearfield, Pa.

No. 284 (12-13, 326). Fire Clay from Lower Bed, Penville Mines, Clearfield county.

#### Analysis.

Silica,.....	44.00
Alumina, .....	39.00
Water, .....	14.00

No. 285 (327-440). Fire Clays, Soft, Plastic Clay, Bigler Mines, Bigler Station, Bradford township.

**Woodland Fire Brick Company**, (Limited), Woodland, Clearfield county, Pa.

No. 286 (45, 48, 280). Fire Clay, "Woodland" Clay.

#### Analyses.

	<i>Raw Clay.</i>	<i>Calcined Clay.</i>
Silica, .....	45.290	52.168
Alumina, .....	40.067	46.152
Ferric oxide,.....	1.074	1.236
Lime, .....	0.257	0.296
Magnesia, .....	0.080	0.092
Water and organic, .....	13.184	—
Alkalies and loss, .....	0.048	0.056

No. 287 (46, 281). Fire Clay, "Bradford" Clay.

No. 288 (282-283). Fire Clay, "Tyrone" Clay.

### Analyses.

	<i>Bradford Clay.</i>	<i>Tyrone Clay.</i>
Silica, .....	45.867	48.348
Alumina, .....	38.391	36.373
Ferric oxide, .....	1.869	1.996
Lime, .....	0.103	0.066
Magnesia, .....	0.048	0.120
Water and organic, .....	13.093	10.556
Alkalies and loss, .....	0.629	2.541

Soisson, Joseph, & Sons, Connellsville, Fayette county, Pa.

No. 289 (47, 183, 315). Fire Clay, Soisson Mines, near Connellsville. Used in the manufacture of mill and coke oven bricks.

### Analysis.

Silica, .....	55.38
Alumina, .....	30.42
Ferric oxide, .....	Trace.
Magnesia, .....	0.52
Alkalies, .....	0.22

Queen's Run Fire Brick Company, Lock Haven, Clinton county, Pa.

No. 290 (55, 56, 58, 442). Hard Clay, Queen's Run Clinton county, best quality of clay.

### Analyses.

	<i>Raw Clay.</i>	<i>Calcined Clay.</i>
Silica, .....	46.65	52.73
Alumina, .....	36.36	40.63
Ferric oxide, .....	1.19	1.73
Lime, .....	0.08	0.21
Magnesia, .....	—	0.04
Potassa, .....	1.06	1.46
Soda, .....	0.24	0.37
Titanic acid, .....	2.64	2.94
Loss on ignition, .....	13.01	—
	<u>100.23</u>	<u>100.11</u>

No. 291 (57, 59, 60.) No. 2 Soft Clay, Queen's Run.

### Analysis.

Silica, .....	50.80
Alumina, .....	32.28
Ferric oxide, .....	1.77
Lime, .....	0.05
Magnesia, .....	0.47
Potassa, .....	4.22
Soda, .....	0.34
Titanic acid, .....	1.25
Loss on ignition, .....	8.94
	<hr/>
	100.12
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Welch, Gloninger & Maxwell, Pittsburgh, Pa.

No. 292 (50-52). "North Savage" or Flint Fire Clay, Savage Mountain, Somerset county, Pa. The bricks are made from this with the admixture of only enough soft clay (No. 293) to make it bind

### Analyses.

	<i>Raw Clay.</i>	<i>Calcined Clay.</i>
Silica, .....	53.860	59.16
Alumina, .....	35.484	38.70
Ferrous oxide, .....	1.230	1.360
Lime, .....	0.302	0.331
Magnesia, .....	0.144	1.360
Water and organic matter, .....	8.750	

No. 293 (340, 211, 53). Soft or inferior fire clay, used in fire brick and in buff building brick, Savage Mountain, Somerset county.

### Analysis.

Silica, .....	56.040
Alumina, .....	28.585
Ferric oxide, .....	0.855
Lime, .....	0.440
Magnesia, .....	0.914

No. 294 (54, 207, 208). Red clay, Somerset county. Used for dark colored paving brick.



**Welch, Gloninger & Co., Pittsburgh, Pa.**

No. 295 (79, 81, 91). Fire clay, Beaver county.

Used for "W" fire bricks and buff building bricks.

#### **Analysis Calcined Clay.**

Silica, .....	65.18
Alumina, .....	30.35
Oxide of iron, .....	1.43
Lime, .....	trace
Magnesia, .....	0.22
Alkalies, .....	2.36
Water, .....	0.46

**Westmoreland Fire Brick Company, Pittsburgh, Pa.**

No 296. (44, 303, 305). Fire Clay, Hunker Station, "Flint Clay."

The bricks stamped "Westmoreland No. 1" are made from this clay with only enough plastic clay to make it bind.

#### **Analysis.**

Silica, .....	52.58
Alumina, .....	33.12
Iron, .....	0.20
Lime, .....	none
Magnesia, .....	0.29
Alkalies, .....	0.08
Water and organic matter, .....	13.68

No. 297 (306). Furnace bricks stamped "Peerless" composed of nearly equal parts of flint clay (296) and plastic clay.

No. 298 (307). Dark buff building bricks, stamped "Westmoreland."

**Brady's Run Fire Clay Company, West Bridgewater, Pa.**

No. 299 (64, 66, 329, 330). Fire clay, Brady's Run, West Bridgewater.

The light colored bricks are made entirely of this clay, but the paving bricks of dark color, contain an admixture of shale.

#### **Analysis of Clay (G. G. Pond).**

Silica, .....	62.029
Alumina, .....	23.656
Ferric oxide, .....	0.896
Lime, .....	2.335
Magnesia, .....	0.819
Potassa, .....	1.084
Soda, .....	0.577
Loss on ignition, .....	8.043

**Harbison & Walker, Pittsburgh.**

No. 300 (275, 276, 279). Benezet Fire Clay, Blair county.

**Analyses.**

	<i>Raw Clay</i>	<i>Calcined Clay.</i>
Silica, .....	47.233	54.370
Alumina, .....	38.409	45.150
Iron, .....	0.391	trace.
Lime, Magnesia, Alkalies and Loss, .....	0.192	0.480
Water, .....	13.775	

No. 301 (277.) Blast Furnace Brick, Stove Brick and Bessemer Tuyere, nozzels and sleeves.

**Cambria Fire Brick Company, Figert, Pa.**

No. 302 (49-364.) Fire Clay, Cambria county Hard Clay.

No. 303 (49 a 365.) Fire Clay, Cambria county. Soft Clay.

**Analyses (G. G. Pond).**

	<i>Hard Clay 302.</i>	<i>Soft Clay 303.</i>
Silica, .....	48.878	45.513
Alumina, .....	32.002	36.863
Iron, .....	3.629	2.322
Lime, .....	0.374	0.248
Magnesia, .....	0.079	0.393
Potassa, .....	1.612	3.906
Soda, .....	0.130	0.593
Loss on ignition, .....	15.609	10.707

**Dixon Woods Company, Pittsburgh, Pa.**

No. 304 (62.) Fire Clay, Arthur Station, Clarion county, Pa.  
 Used only for the manufacture of furnace block, weighing 600 to 800 pounds. The hard clay is mixed with a proportion of soft clay, from Missouri.

**Analysis (G. G. Pond).**

Silica, .....	44.253
Alumina, .....	40.811
Lime, .....	0.428
Magnesia, .....	0.148
Potassa, .....	0.283
Soda, .....	0.497
Loss on ignition, .....	13.896

**Savage Fire Brick Company**, Keystone Junction, Somerset county, Pa.  
No. 305 (358-359-403.) Fire Clay, Williams Station.

#### Analysis.

Silica, .....	54.65.
Alumina, .....	30.74
Ferrous oxide, .....	0.08
Lime, .....	0.19
Magnesia, .....	0.13.
Alkalies, .....	0.11

**Beech Creek Fire Brick Company**, Beech Creek, Pa.  
No. 306 (429-431.) Fire Clay, Beech Creek.

**Fredericks, Munro & Company**, Farrandsville, Clinton county, Pa.  
No. 307 (432-434). Fire Clay, Farrandsville.

#### Analysis (J. B. Britton).

Silica, .....	45.26.
Alumina, .....	37.84
Ferric Oxide, .....	2.03.
Lime, .....	0.08.
Magnesia, .....	0.02.
Potassa, .....	1.26
Water and organic matter, .....	13.30.
Loss, .....	0.20.

**Melick, Elmer E.**, Pennsylvania Retort and Fire Brick Works,  
Retort, Pa.

No. 308 (70-72). Fire Clay, Rush township.

#### Analysis.

Silica, .....	42.320.
Alumina, .....	37.010.
Ferrous oxide, .....	0.950.
Lime, .....	0.470.
Magnesia, .....	0.160.
Alkalies, .....	1.290
Titanic acid, .....	3.830.
Water and organic matter, .....	13.740
Loss, .....	0.230.

**Soisson & Kilpatrick**, (now Jos. Soisson & Sons), Connellsville, Pa.  
No. 309. (61). Flint Fire Clay, Brillskin township, Fayette county.

#### Analysis.

Silica, .....	55.28
Alumina, .....	34.17
Ferric oxide, .....	2.27
Lime, .....	1.31
Magnesia, .....	2.11

**Renovo Fire Brick and Clay Company**, Renovo, Clinton county, Pa.

No. 310 (294-296). Fire Clay, Renovo. The contraction in burning is very uniform and not excessive as shown by the two lumps of raw and calcined clay exhibited.

#### Analysis. Specific gravity, 2.8289.

Silica, .....	32.60
Titanic acid, .....	4.62
Alumina, .....	53.84
Ferrous oxide, .....	1.02
Lime, .....	1.35
Magnesia, .....	0.10
Potassa, .....	0.14
Soda, .....	0.45
Water, .....	5.89

A comparison of the density of Renovo Clay with German and "Christy" Missouri Clay is quoted thus :

Ground Raw "Christy" Clay, per cubic foot,.....	70½ pounds.
" Calcined " " " .....	83½ "
" Raw German " " .....	78 "
" Calcined " " " .....	85 "
" Raw Renovo, " " .....	90½ "
" Calcined " " " .....	100 "

No. 311 (296). Two small melting pots (about 20 inches in diameter), composed of 75 per cent. of burnt Renovo clay and 25 per cent. of raw German clay.

**Allegheny Fire Clay Works**, A. C. Moyer & Co., Altoona, Pa.

No. 312 (284, 285). Fire clay, Kittanning Point, Horse Shoe Bend, Penn'a R. R.

#### Analysis.

Fire clay, .....	97.03
Ferric oxide, .....	0.90
Magnesia, .....	0.11
Silicates, .....	1.81
Water, .....	0.15



**Duncan, Peter S.,** Ore Hill, Blair county, Pa.

No. 313 (42). Fire clay, Ore hill.

**Analysis (O. Wuth).**

Silica, .....	73.88
Alumina, .....	18.86
Ferric oxide, .....	0.57
Lime, .....	0.39
Magnesia, .....	0.09
Water, .....	6.16

Class 305. Refractory stones for lining furnaces, sandstone, steatite, etc., and refractory furnace materials. Mica; kidney, sheet or ground.

**Duespohl, F. Pollock,** Clarion county, Pa.

No. 314 (2). Stone used for fire brick for furnace linings, etc.

Analysis shows 90 per cent. of silica. Deposit very large.

**Moll, B. H.,** Alburtis, Lehigh county, Pa.

No. 315 (36). Sand used for fire brick.

**Rhoades, William,** Edge Hill, Montgomery county, Pa.

No. 316 (68). Stone used for furnace linings, Bessemer converters and cupolas.

**Analysis**

Silica, ..	90.70
Alumina, .....	6.68
Ferric oxide, .....	1.62
Lime, .....	0.12
Magnesia, .....	0.15
Loss, .....	0.70

**Uniontown Firestone Company,** Uniontown, Pa.

No 317 (232). Firestone, Hopwood, Fayette county, Pa. Used for lining cupolas and Bessemer converters.

**Analysis.**

Silica, .....	92.750
Alumina, .....	4.695
Ferric oxide, .....	1.785
Lime, .....	trace
Magnesia, .....	0.270

**Williams, C. K. & Company,** Easton, Pa.

No. 318 (319) Soapstone, Northampton, county. Used in powdered form for various purposes.

No. 319 (92). Soapstone.

No. 320 (94). Mica or isinglass.

Class 307. Asbestos, crude and manufactured.

No. 321. Asbestos, Easton.

## GROUP 47.

## Limestone, Cement and Artificial Stone.

Class 309. Lime, cement and hydraulic cement, raw and burned, accompanied by specimens of the crude rock or material used ; also artificial stone, concrete, beton.

Specimens of lime mortar and mixtures, with illustrations of the processes of mixing, etc. Hydraulic and other cements.

Class 310. Beton mixtures and results, with illustrations of the processes.

Class 311. Artificial stone for building purposes, building blocks, cornices, etc. Artificial stone mixtures for pavements, walls, or ceilings.

**Duncan, Peter S.,** Ore Hill, Pa.

No. 322 (30). Sand-gigged or ore wash sand, used for building and plastering.

**American Cement Company,** Egypt, Lehigh county.

No. 323 (37-41). Specimens to illustrate the successive operation in the manufacture of Portland cement, viz.: Cement stone, from quarry at Egypt, Pa., ground cement stone, Portland clinker, ground cement, and concrete.

**Coplay Cement Company,** Allentown and Coplay, Lehigh county, Pa.

324 (331-339). Specimens to illustrate the successive operation in the manufacture of Saylor's Portland cement, viz.: Cement rock, Lehigh county ; Limestone, Lehigh county ; Cement mixture, brick before burning for clinker, Portland clinker, Saylor's cement, "anchor" cement, a lightly burnt natural cement; improved anchor cement.

## Analyses.

	<i>Brick Mixture.</i>		<i>Clinker.</i>	
Silica, .....		13.81		21.00
Lime, .....	CaCO <sub>3</sub>	8.030	CaO	64.00
Iron and Alumina, .....		3.42		10.00
	<i>Saylor's Cement.</i>		<i>Anchor Cement.</i>	
Silica, soluble, .....		19.67	}	24.61
"    insoluble, .....		0.97		
Alumina, .....		6.93	}	11.03
Ferric oxide, .....		5.41		
Lime, .....		62.79		54.20
Magnesia, .....		1.72		2.01
Carbonic acid, .....		0.59		6.35
Sulphuric acid, .....		0.11		
Phosphoric acid, .....		0.03		
Manganese, .....		1.16		
Alkalies, .....		0.28		

**Milroy Cement Company, Milroy, Pa.**

No. 325 (389-393). Specimens to illustrate the successive operations in the manufacture of cement, viz: Cement rock, calcined rock, cement, briquettes neat and half sands and concrete.

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### GROUP 48.

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#### **Salts, Sulphur, Fertilizers, Pigments, Mineral Waters, and Miscellaneous Useful Minerals and Compounds.**

Class 319. Pigments, iron oxides, ochres, vermilion, etc.

**Long, S. & Son, DeLong, Berks county, Pa.**

No. 326 (6-8). Yellow Ochre, Hancock Station.

**Moll, B. H., Alburtis, Lehigh county, Pa.**

No. 327 (35, 417-418). Yellow Ochre.

**Williams, C. K. & Company, Easton, Pa.**

No. 328 (95-97). Sienna, Berks county.

No. 329 (98). Yellow Ochre, Berks county.

No. 330 (459, 99). Venetian Red. (Manufactured color).

No. 331 (102). Red Oxide, Northampton county.

No. 332 (458, 106). Spanish Brown.

No. 333-334 (107, 461). Grey Ochres, Northampton county.

No. 335 (108). Yellow Ochre, Northampton county.

No. 336 (109). Yellow Ochre, Northampton county.

No. 337 (110). Umber, Northampton county.

No. 338 (111, 460). Mineral Black, Schuylkill county.

No. 339 (457, 297). Red Oxide, Berks county.

No. 340. (100-298). Talc, Northampton county.

No. 341 (105, 300). Talc, Northampton county.

No. 342 (104). Slate Paint, Northampton county.

No. 343 (299). Silica, York county.

No. 344 (112). White Clay, Northampton county.

**Tate, M. C., Allenwood, Union county, Pa.**

No. 345 (121). Paint ore and ground paint.

**Luzerne Ochre Manufacturing Company, Moosehead, Pa.**

No. 346 (132, 360). Yellow Ochre, Luzerne county.

No. 347 (122, 361). Brown Ochre, Luzerne county.

**Nice, Eugene E., Philadelphia, Pa.**

No. 348 (123). Metallic Brown.

Raw Sienna.

Burnt Sienna.

Raw Umber.

Burnt Umber.

Yellow Ochre.

Mineral Black.

**Rutherford & Barclay, Philadelphia, Pa.**

No. 349 (124). Mineral Paint, Stony Ridge, Lehigh Gap, Carbon county.

**Lehigh Metallic Paint Company, Alburtis, Pa.**

No. 350 (186-188). Sienna.

No. 351 (189-190). Venetian Red.

No. 352 (185-191). Metallic Brown.

No. 353 (193). Umber.

No. 354 (194). Burnt Umber.

No. 355 (192). "F" Ochre.

**Henry Irwin, Bethlehem, Pa.**

No. 356 (195, 399). Mineral Black. Schuylkill county.

No. 357 (196-198). Ochre. Berks county.

No. 358 (199). Ochre "B. F." Berks county.

No. (359 201, 400). Flamingo Venetian Red. Manufactured from copperas.

No. 360 (293-394-395). Umber. Northampton county.

No. 361 (204-397). Sienna. Northampton county.

No. 362 (285-396). Sienna. Northampton county.

No. 363 (206, 398). Metallic Brown, Lebanon county.

**Pennsylvania Paint and Ochre Company, Allentown, Pa.**

No. 364 (470-472). Sienna, Berks county.

No. 365 (473-475). Umber, Northampton county.

No. 366 (477-478). LaBelle Ochre, Berks county.

No. 367 (479-480). Metallic Paint, Carbon county.

No. 368 (481). Mineral Black, Luzerne county.

No. 369 (476). (Slate Flour, Lehigh county).

**Howell, Dr. William M., Lycoming, Pa.**

No. 370. (369). Paint iron ore, Lycoming township.

**Plank, Dr. D. Heber, Morgantown, Pa.**

No. 371. Paint Ores. Cærnarvon township, Berks county. (In mineral exhibit, See No 1 of this catalogue).

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**GROUP 49.**
**Metallurgy of Iron and Steel, with the Products.**

Class 322. Ore mixtures, fluxes and fuels.

Class 323. Blast furnaces—stacks, stoves, blowing apparatus and arrangement.

Class 324. Pig-iron, cast-iron and mixtures.



**Chestnut Hill Iron Ore Company**, Jerome L. Boyer, superintendent furnaces at Columbia, Pa.

No. 372 (133). Coal and Coke furnace charge, showing the proportions and products of a charge of one hundred pounds of ore.

#### Charge.

Roasted Cornwall Ore, .....	37½ pounds.	
Ebboate (Maryland) ore .....	37½ "	
York county ore, .....	12½ "	
No. 50. Moul Mine ore, .....	12½	100 pounds.
Limestone, .....		50 "
Coke, .....		15 "
Coal, .....		45 "
Total charge, .....		210 "

#### Products.

Pig-iron, .....	48¾ pounds.	
Slag, .....	105 "	
		115¾ pounds.

**Rockhill Iron and Coal Company**, Morton Stevens, Chemist, Rockhill Furnace, Huntingdon county, Pa.

No. 373 (165, 166, 172, 173, 180)- Coke Furnace charge, showing the proportions and products of a charge of fifty pounds of ore, flux and fine.

#### Charge.

Mixed ores, .....	20 pounds.	
Limestone, .....	15 "	
Coke, .....	15 "	
		50 pounds.

#### Products.

Pig iron.....	7½ pounds,	
Slag, .....	21 "	
		28½ pounds.

The mixture of ores is composed of

No. 35. Shade Gap (Clinton) Fossil, .....	62½ per cent.	
No. 37. Booher, .....	12½ "	" "
No. 36. Sandy Ridge Hematite, .....	8⅔ "	" "
No. 38. Schoenberger Hematite, .....	8⅓ "	" "
No. 39. Hill Valley Hematite, .....	8⅓ "	" "

Thus combined the mixture contains about 27 per cent. of silica and 39.5 per cent. of iron.

**Logan Iron and Steel Company, R. H. Lee, Superintendent, Lewis-**  
town, Pa.

No. 374 (510-512). Cold Blast Charcoal Furnace charge, showing  
the proportions in a charge of one hundred pounds of ore, flux and  
charcoal. Greenwood Furnace.

### Charge.

No. 55.	Soft Fossil Ore, .....	56.3 pounds.	
	Limestone, .....	10.7	"
	Charcoal, .....	33.0	"
			<u>100 pounds.</u>

No. 375 (516-520). Cold Blast Charcoal Iron, Greenwood Furnace.

No. 1. Charcoal Iron.

No. 2. Charcoal Iron.

No. 3. Charcoal Iron.

White Charcoal Iron.

Class 333. Manganese iron and steel, chrome steel, aluminum steel,  
tungsten steel, other forms of steel.

**Lehigh Zinc and Iron Company, Bethlehem, Pa.**

No. 376. Manufacture of spiegel iron. Illustrated by specimens  
and colored drawing. Shown in connection with zinc white, manu-  
facture, No. 379 of this catalogue.

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## GROUP 51.

### Copper and its Alloys. Metallurgy.

Copper ores are catalogued under group 42.

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## GROUP 53.

### Metallurgy of Zinc, Nickel and Cobalt.

Class 347. Production of spelter.

Class 348. Sheet and bar zinc.

Class 349. Production of zinc oxide.

**Friedensville Zinc Company, Friedensville, Pa.**

No. 377 (178). Spelter, made from Lehigh zinc ore.

No 378 (177). Zinc white.

**Lehigh Zinc and Iron Company, Bethlehem, Pa.**

No. 379 (495). Metallurgy of zinc oxide and spiegel. This exhibit represents the manufacture of zinc oxide and spiegel together, by means of a fine colored picture of the furnaces, nine feet in length, supported on a stand in which the crude and manufactured products are all shown in the proper proportions in per centage of the furnace charges. Accompanying the exhibit is a full description of the furnaces and process.

List of specimens to illustrate the manufacture of zinc oxide.

Franklinite ore, .....	100.00	per cent.
Coal to be mixed with ore, .....	55.68	"
Coal to be spread on grates, .....	45.95	"
Best oxide of zinc, ..... (99.87 per cent.)	24.50	"
Impure oxide of zinc, ..... (99.34 " )	1.50	"
Residuum from oxide furnaces, .....	66.22	"

List of specimens to illustrate the manufacture of spiegel iron.

Residuum from oxide furnaces, (which is ore to spiegel furnace)	62.22	per cent.
Coal used in spiegel furnace, .....	66.22	"
Limestone used in spiegel furnace, ...	36.42	"
Spiegel produced, .....	31.72	"
Impure oxide of zinc, from spiegel... condensers, ..... (74.16 per cent.)	2.32	"
Slag, .....	57.80	"
Class 350. Nickel in ingots, bars, rods, sheets and wire.		

**Gap Nickel Mines and Furnaces, Captain Charles Doble, Superintendent, Nickel Mines Post Office, Lancaster county, Pa.**

No. 380 (127). Nickel Ore, Nickel Mines, Gap Station. (See also No. ).

The ore contains 2.5—3.00 per cent. of nickel.

No. 381 (128). Nickel Matte.

This matte is manufactured at the furnaces and shipped the refining works at Camden, N. J., where the nickel is produced.

No. 382 (130). Commercially pure grain nickel. American Nickel Works, Camden, N. J.

No. 383 (129). Millerite Gap Nickel Mines, Lancaster county.

**Emmens Nickel Company, Youngwood, Pa.**

No. 384 (508). Small case showing the ore and products in the reduction of nickel.

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**GROUP 58.****Quarrying and Working Stone.**

Class 372. Slate-cutting, sawing and planing machines.

**Old Bangor Slate Company**, Bethlehem, Pa.

No. 385. Tools used in splitting and cutting slate.

No. 386. Photographs (2) of slate quarries.

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**GROUP 60.**

**Tools and Appliances of Underground Mining, Timbering and Supporting.**

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**GROUP 61.**

**Boring and Drilling Tools and Machinery, and Apparatus for Breaking out Ore and Coal.**

Class 381. Picks, gads and hammers.

Class 382. Hand-drills, hammers and blasting implements.

**Philadelphia and Reading Coal and Iron Company**, Philadelphia, Pa.

No. 387 (550). Collection of miner's tools, mounted on a screen.

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**GROUP 64.****Apparatus for Crushing and Pulverizing.**

Class 397. Coal breakers.

**Philadelphia and Reading Coal and Iron Company**, Philadelphia, Pa.

No. 388. Working model of a coal breaker in connection with a model of an anthracite coal mine.

No. 389. Plan of mine workings at Maple Hill Colliery. Scale, 100 feet to the inch.

No. 390. Cross section through Maple Hill Colliery on line of main tunnel. Scale, 50 feet to the inch.

No. 391. Detailed plans of timbering Maple Hill Shaft. Scale, 8 feet to the inch.

No. 392. Plan and projected section of wagon breast. Scale 10 feet to the inch.

No. 393. Plan and section of single chute breast, flat workings with buggy. Scale 12 feet to the inch.



No. 394. Double chute juggler, thick seam, moderate pitch. Scale 10 feet to the inch

No. 395. Double chute breast with batteries. Scale 10 feet to the inch.

No. 396. Plan showing mining by lifts. Scale 100 feet to the inch.

No. 397. Single chute breast with battery, steep pitch. Scale 16 feet to the inch.

No. 398. Single chute breast, thin seam, steep pitch. Scale 10 feet to the inch.

No. 399. Breast worked back toward the gangway, moderate pitch, sheet iron chute. Scale 10 feet to the inch.

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## GROUP 67.

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### History and Literature of Mining and Metallurgy.

Class 410. Maps, relief-models and pictures to illustrate the geology and distribution of minerals and mines and the methods of Working mines.

**Harden, Edward B.**, Philadelphia, Pa.

No. 400 (483). Relief Map of Pennsylvania, showing the coal fields, oil and gas pools, Iron ore mines, blast furnaces, oil pipe lines, etc.

Scale : 2 miles = 1 inch (horizontal),

Scale 1 : 126,720 of nature—vertical.

Scale 1 : 24,000 of nature.

No. 401 (484). Geological Relief Map, showing the shape of the floor of the mammoth coal bed in the Panther Creek Coal Basin, near Mauch Chunk. Scale : 800 feet = 1 inch.

No. 402 (485). Geological Relief Map of the Mahanoy and Shenandoah Anthracite Coal Basins, showing the contour of the floor of the mammoth bed in Schuylkill county, Pa. Scale : 1600 feet = 1 inch.

No. 403 (486). Geological Relief Map of parts of Blair, Bedford and Huntingdon counties, Pa. Scale : 8,000 feet = 1 inch.

No. 404 (487). Geological Relief Map, showing faults in Bald Eagle Mountain, Pa. Scale : 1,600 feet = 1 inch.

No. 405 (488). Relief Map of the Cornwall Iron Mines, Lebanon county, Pa. Scale : 200 feet = 1 inch.

**Lehman, Ambrose E.,** Philadelphia, Pa.

No. 406 (490). Model of the Cornwall Iron Ore Mines, Lebanon county, Pa. The contour lines are shown on the surface, representing a vertical distance of ten feet between them. Scale: 400 feet = 1 inch.

**Lehman, George M.,** Weldon, N. C.

No. 407 (491). Geological Relief Map of the southwestern end of the Northern Anthracite Coal Field, vicinity of Slickshinny. Scale, 800 feet = 1 inch.

**Pennsylvania State Geological Survey,** Prof. J. P. Lesley, State Geologist.

No. 408. Geological Map of Pennsylvania by A. D. W. Smith, Assistant Geologist, 1893.

No. 409. Map showing coal areas of Pennsylvania, by A. D. W. Smith, Assistant Geologist, 1893.

No. 410. Map of Anthracite District.

No. 411. Six Maps of Pennsylvania Anthracite Coal Fields. (On Rollers).

1. Northern Anthracite Coal Field, Northeastern portion.
2. " " " " Southwestern portion.
3. Eastern Middle Anthracite Coal Field.
4. Western " " " "
5. Southern " " " Eastern portion.
6. " " " " Western portion.

No. 412. General Map of the Bituminous Coal Fields of Pennsylvania, showing the position of the collieries, by Baird Halberstadt, Assistant Geologist, 1892.

No. 413. Map of Pennsylvania showing the general outlines of oil and gas producing areas, January, 1893. Scale, 4 miles = 1 inch.

**Pennsylvania State Board of World's Fair Managers.**

No. 414. Photographs of Coal Mines and of mining and preparing coal.

Class 411. History and statistics of mines and mining districts.

Charts, diagrams and tabular representations. Statistics of Mineral production.

No. 415. Statistical statement of the principal mineral productions of Pennsylvania, 1889.

No. 416. Statistical chart. Relative standing of the principal States as compared to Pennsylvania in the production of the non-important minerals.

No. 417. Statistical chart. Value of the total mineral product of the principal mining States, 1889. In this, Pennsylvania stands first, \$153,000,000.00; Michigan second, \$73,000,000.00.

No. 418. Statistical chart showing the annual shipment of anthracite coal since 1820.

This amounts to the following quantities :

	<i>Tons.</i>
Wyoming region,.....	382,990,423
Lehigh region, .....	147,652,656
Schuylkill region, .....	289,719,916
Total, .....	820,362,995

No. 419. Statistical chart showing the annual production of the Pennsylvania and New York Oil Regions from 1858 to 1893, by A. D. W. Smith.

#### Production.

	<i>Barrels.</i>
White Sands,.....	273,930,642
Black Sand,.....	192,425,933
Total, .....	466,355,933

No. 420. Statistical chart showing the daily averages of production of the Pennsylvania and New York Oil Regions, from 1875 to 1893, by A. D. W. Smith.

**Wood, John A.**, President of the Ship Canal Commission, Pittsburgh, Pa.

No. 421. General map to accompany the report of the Commission on the Lake Erie and Ohio River Ship Canal.

No. 422. Profile of route of Lake Erie and Ohio River Ship Canal, from Conneaut Harbor to the Ohio River at Rochester.

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### GROUP 68.

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#### Original or Reproductions of Early and Notable Implements and Apparatus used in Mining and Metallurgy.

No. 423. Model of a Primitive Form of Iron Furnace used about 400 B. C., in Western Asia. Designed for the Columbian Exposition by Edward P. Butts, of the Class of '93 of the Pennsylvania State College, Penna. From descriptions published in old books, and from various other sources. The furnace was charged with alternate layers of charcoal and ore, the charcoal being well beaten. The reduction was made by blast from bellows, and the iron was then removed by means of hooks and bars and was of a spongy appearance. It was then hammered to remove the scoria and to shape it for use or commerce.



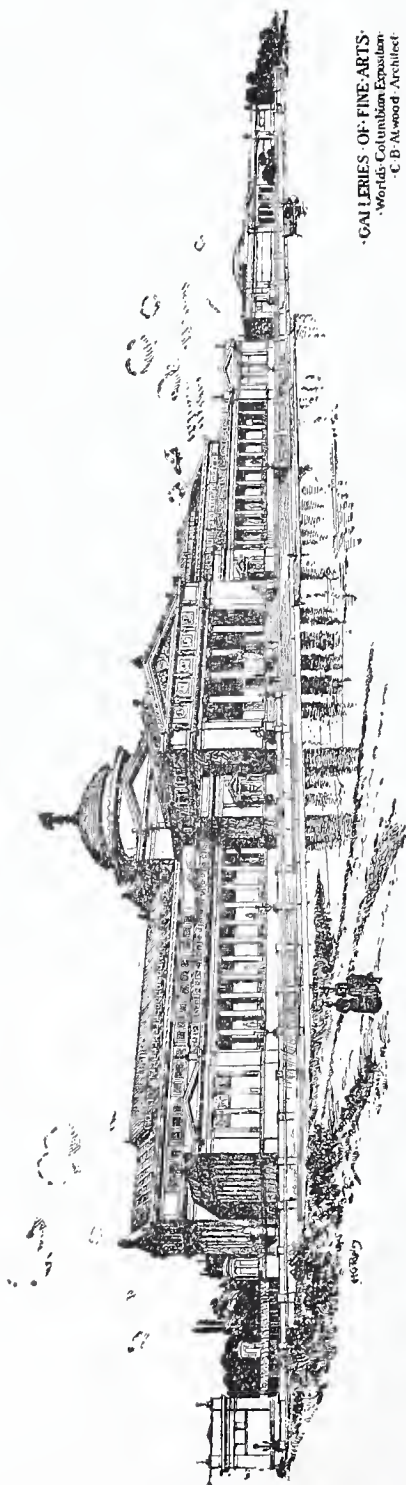
# DEPARTMENT K.

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FINE ARTS.

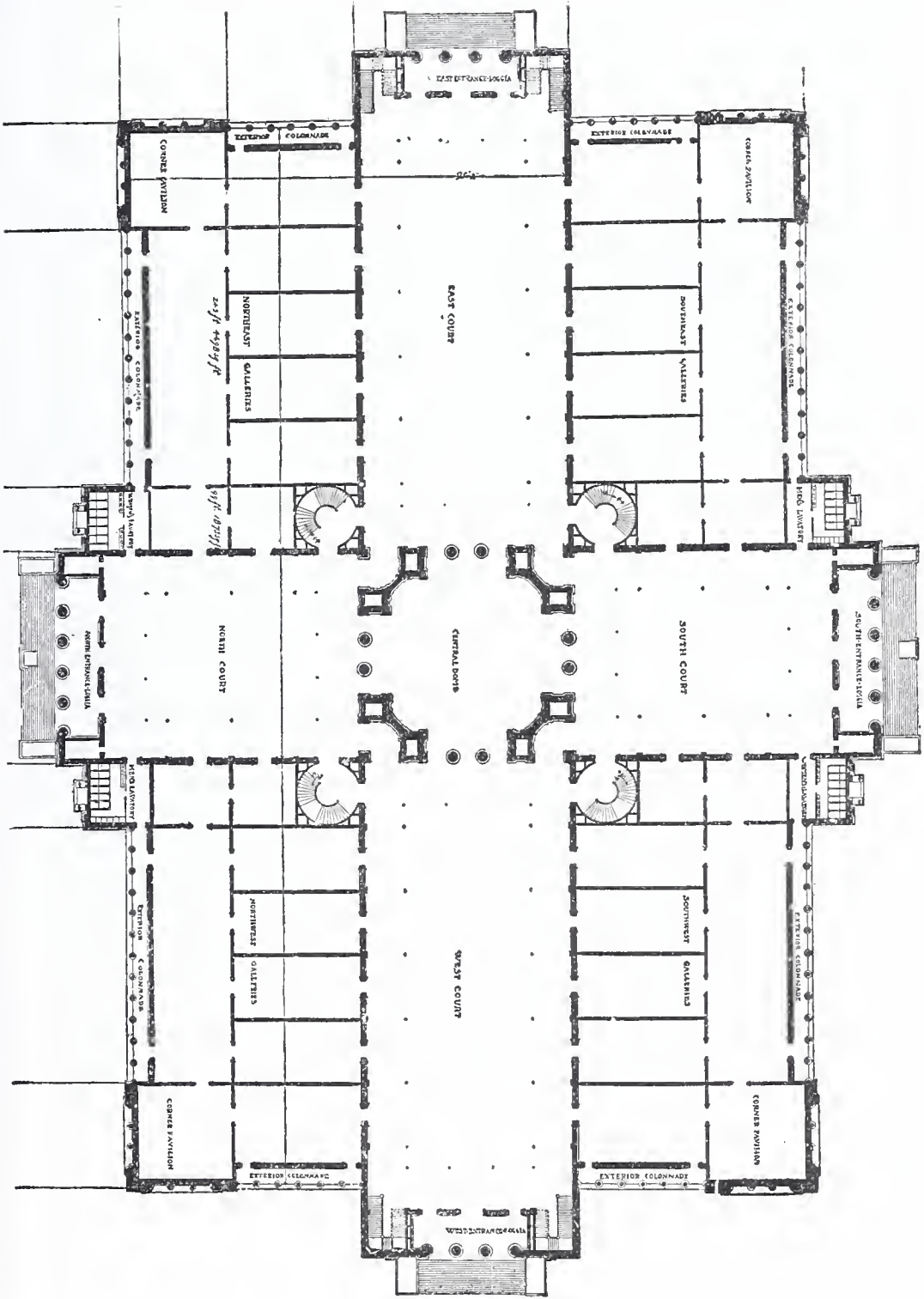






GALLERIES OF FINE ARTS  
World's Columbian Exposition  
C. B. A. Wood, Architect

FLOOR PLAN PALACE OF THE FINE ARTS.—WORLD'S COLUMBIAN EXPOSITION.





## DEPARTMENT K.

### FINE ARTS.

The Palace of the Fine Arts is the most northerly of the Exposition buildings proper (*i. e.* erected by the World's Columbian Exposition) and is surrounded on three sides by the State buildings, (of which Pennsylvania is in front of the main entrance), and on the south by the North Pond. The building is a pure type of the most refined classic architecture, and unlike most of the other, is designed to be a permanent structure. The vast central pavilion contains the rotunda, and the north, east, south and west courts; from the north-east and north-west corners, proceed covered corridors leading into the east and west pavilions respectively.

For the purpose of locating the pictures, etc., the whole building is divided into galleries, numbering from 1 to 188; Nos. 1-108, inclusive, being on the ground floor and Nos. 109-188 inclusive, on the first gallery.

The contributions and exhibits of Pennsylvania in this department, which were so excellent and well selected that all of them were accepted, consist of paintings in oil, water colors, etchings, pastels, black and white work, etc., sculpture and architectural designs.

Location (*a*). By far the largest number are of course in the Fine Arts Building, in the United States sections (galleries 1-9 in northeast quadrant of central pavilion; galleries 37-42, in corridor and east pavilion; galleries 81, 94 and 95 in east and west courts, and upper gallery Alcoves 109-115, 129, 143, 145-147, 149-155, 165, 170, 173-184, 186 and 187, and in the 4 central stairways.

(*b*). In the Pennsylvania State Building there are also numerous and valuable art contributions (*v. ante* pp. 18 *et. reg*).

(*c*). In the Woman's Building Pennsylvania Artists take a prominent rank both in number and quality. (*v. infra*. pp).

Note.—In the following list the figures first given indicate the "official catalogue number" (affixed to each picture); the figures in parenthesis show in what gallery the picture or other article is to be found.



## SCULPTURE.

## OFFICIAL GROUP 139.

To be found in the North Court, Rotunda, and Gallery 38.

**Calder, A. Stirling**, Philadelphia.

38. *Cordelia* (Plaster Bust)  
(N. E. cor. of North  
Court).

29. *Boy with Ribbon* (Plaster)  
(North Court).

**Cox, Charles B.**, Philadelphia.

35. *American Buffalo*  
(Bronze) (near centre,  
North Court).

**Elwell, F. Edwin**, New York City,  
N. Y.

40 b. *Charles Dickens and  
Little Nell* (Bronze)  
(North Court).

**Grofly, Charles**, Philadelphia.

49. *Daedalus* (Bronze) (be-  
tween Rotunda and  
West Court).

50. *Mauvais Presage* (Plaster)  
(North Court).

**Murray, Samuel**, Philadelphia.

82. *Study of a Child's Head*  
(Bronze) (North  
Court).

83. *Bust of Walt Whitman*  
(Bronze) (Gal. 38).

## PAINTINGS IN OIL.

## OFFICIAL GROUP 140.

To be found in Galleries 1, 3, 5, 6, 7, 8, 9, 37, 38, 39, and in upper  
Gallery alcoves 109, 115, 173, 175, 179, 180, 184, 186 and 187.

**Beaux, Cecilia**, Philadelphia.

167. *Last Days of Infancy*  
(Gal. 3).

168. *Portrait of a Boy* (Gal.  
175).

**Beck, Carol H.**, Philadelphia.

169. *Portrait of Gov. Robert  
E. Pattison* (Gal. 37).

170. *Portrait* (Gal 3).

**Bregler, Charles**, Philadelphia.

200. *Portrait of a Woman*  
(Gal. 173).

**Cooper, Colin Campbell**, Philadel-  
phia.

289. *Portrait of a Lady* (Gal.  
173).

270. *Portrait* (Gal. 174).

**Clarke, Thomas Shields**, Pittsburgh.  
262. *A Fool's Tool* (Gal. 9).

**Cady, Henry N.**, Philadelphia.  
238. *Sunset at Narragansett Pier*, R. I. (Gal. 6).

**Clements, Gabrielle D.**, Philadelphia.  
267. *Andarina* (Gal. 183).

**Dodson, Sarah**, Brighton, England.

364. *St. Thekla* (Gal. 175).

365. *Honey of the Hymettus* (Gal. 6).

365a. *The Morning Stars* (Gal. 111).

**De Crano, F. F.**, Philadelphia.

339. *Mentone, France* (Gal. 38).

**Didier, Ida Joy**, Allegheny.

361. *Portrait* (Gal. 174)

**Delachaux, Leon**, Paris, France.

342. *The Miller's Son* (Gal. 113).

343. *Le Moulin des Pres* (Gal. 173).

**Eakins, Mrs. Thos.**, Philadelphia.

390. *Reflection* (Gal. 9).

**Eakins, Thomas**, Philadelphia.

380. *Mending the Net* (Gal. 9).

381. *Portrait of Prof. Geo. T. Barker* (Gal. 7).

382. *The Writing Master* (Gal. 37).

383. *Portrait of a Lady* (Gal. 9).

384. *The Sculptor* (Gal. 180).

385. *Portrait of Dr. Agnew* (Gal. 113).

386. *Crucifixion* (Gal. 187).

387. *Cowboys at Home Ranch* (Gal. 112).

388. *Portrait of William D. Marks* (Gal. 113).

389. *Portrait of Prof. Gross* (During an operation), (Gal. 113).

**Frye, Gertrude**, Philadelphia.

457. *Portrait of Miss G. E.* (Gal. 9).

**Gilman, B. F.**, Philadelphia.

486. *Portrait, Study* (Gal. 9).

**Goldman, Martha**, Pittsburgh.

487. *Portrait of Gustav Goldman* (Gal. 1).

**Grayson, Clifford P.**, Philadelphia.

491. *A Rainy Day at Pont Aven* (Gal. 8).

492. *November* (Gal. 1).

493. *Idle Hours* (Gal. 37).

**Hipple, Sarah Levis**, Philadelphia.

557. *Sardine Fishing Boats* (Gal. 1).

558. *The Road to Putcaux* (Gal. 37).

**Hovenden, Thomas**, Plymouth Meeting.

581. *Breaking Home Ties* (Gal. 37).

382. *Bringing Home the Bride* (Gal. 5).

583. *When Hope was Darkest* (Gal. 7).

**Holme, Lucy D.**, Philadelphia.

365. *A Holiday Occupation* (Gal. 6).

**Hetzel, George**, Pittsburgh.

554. *Wood Scene* (Gal. 7).

555. *Study from Nature* (Gal. 160).

**Jenkins, H. K.**, Philadelphia.

616. *Landscape* (Gal. 9).

617. *Still Life* (Gal. 9).

- Knight, D. Ridgway**, Paris, France.  
646. *Hailing the Ferry* (Gal. 8).
- Lambert, John Jr.**, Philadelphia.  
660. *Portrait* (Gal. 6).  
661. *A Commissionaire* (Gal. 179).  
662. *Landscape, Mid-Day* (Gal. 180).
- Lownes, Anna**, Philadelphia.  
676. *The Raven* (Gal. 39).
- Morris, Jenny H.**, Moorestown, N. J.  
745. *A Corner in the Turkish Bazar* (Gal. 111).  
746. *Still Life* (Gal. 114).
- McDowell, Elizabeth**, Philadelphia.  
683. *Day Dreams* (Gal. 114).
- Moran, Peter**, Philadelphia.  
1153½. *Down the Arroya to Santa Fe, N. M.* (Gal. 110).
- Newman, Carl**, Philadelphia.  
769. *A Study* (Gal. 174).
- Parrish, Stephen**, Philadelphia.  
791. *A Mountain Road* (Gal. 110).  
792. *An Orchard* (Gal. 115).  
793. *Winter Sunset, Cape Cod* (Gal. 5).  
794. *Winter in New Hampshire* (Gal. 5).
- Pearce, Charles Sprague**, Anvers sur Oise, France.  
805. *Mother and Child* (Gal. 1).
- Poore, H. P.**, Philadelphia.  
*Close of a City Day* (Gal. —).  
834. *The Bridge* (Gal. 37).  
835. *The Night of the Nativity* (Gal. 37).
- Richards, William T.**, Newport, R. I.  
854. *February* (Gal. 3).  
855. *"Old Ocean's Gray and Melancholy Waste"* (Gal. 9).
- Sartain, Emily**, Philadelphia.  
884. *Marie* (Gal. 37).
- Senat, Prosper L.**, Philadelphia.  
892. *On the Nile at Beni Hasen* (Gal. 180).  
893. *In the Gulf of Ajaccio, Corsica* (Gal. 180).
- Stephens, Alice Barber**, Philadelphia.  
934. *Rainy Day Effect in Philadelphia* (Gal. 180).  
935. *Harvesting on the Meadow* (Gal. 6).
- Sword, J. B.**, Philadelphia.  
649. *Off the Scent* (Gal. 37).
- Stewart, Julius L.**, Paris, France.  
937. *Yachting Picture* (Gal. 9).  
941. *The Hunt Ball* (Gal. 3).
- Stokes, F. W.**, Philadelphia.  
942. *The Orphans* (Gal. 6).
- Thouron, Henry**, Philadelphia.  
965. *A Precious Bit* (Gal. 112).  
966. *Up Hill* (Gal. 173).  
967. *Resting* (Gal. 112).  
968. *Etruria* (Gal. 173).  
969. *A Rainy Prospect* (Gal. 112).  
970.  $\left\{ \begin{array}{l} \text{Patches} \\ \text{Soup} \end{array} \right.$  (Gal. 173).
- Trego, William T.**, North Wales.  
982. *The Pursuit* (Gal. 37).

**Vonnoh, Robert W., Philadelphia.**

- 1055. *Mauvaise Nouvelle* (Gal. 38).
- 1056. *Early Morning* (Gal. 5).
- 1057. *November* (Gal. 5).
- 1058. *Viola* (Gal. 5).
- 1059. *Temps Humide* (Gal. 6).
- 1060. *Portrait of Dr. Da Costa* (Gal. 115).
- 1061. *Blanche* (Gal. 180).
- 1062. *Duxbury Bay* (Gal. 5).
- 1063. *Rive Degli Schiavoni* (Gal. 5).
- 1064. *Un Jour Triste* (Gal. 5).
- 1065. *Fais le Beau* (Gal. 7).
- 1066. *Studio Comrade* (Gal. 173).
- 1066 a. *Jardin de Paysanne* (Gal. 6).

**Von Helmold, Adele, Philadelphia.**

- 749. *Marigolds* ("Schehera-Jade") (Gal. 9).

**Walkley, D B., Pittsburgh.**

- 1075. *The Potter* (Gal. 114).

**Weber, Carl, Philadelphia.**

- 1080. *Trout Stream near Dingman's Ferry, Pa.* (Gal. 115).

**Weeks, E. L., Paris, France.**

- 1082. *Three Beggars of Cordova* (Gal. 7).

**Woodwell, Johanna K., Pittsburgh.**

- 1133. *Study, Head of a Young Lady* (Gal. 114).

**Woodwell, Joseph R., Pittsburgh, Pa.**

- 1134. *White Rocks, Magnolia, Mass.* (Gal. 6).
- 1135. *A Rocky Coast, Magnolia, Mass.* (Gal. 182.)
- 1136. *Cobblestone Beach, Magnolia, Mass.* (Gal. 182).
- 1137. *Rocks at Low Tide, Magnolia, Mass.* (Gal. 37).

**Waugh, Ida, Philadelphia.**

- 1078. *Hagar and Ishmael* (Gal. 9.)

**Wall, A. Bryan, Pittsburgh, Pa.**

- 1076. *Across the Meadows* (Gal. 6).

**Whiteman, S. Edwin, Mt. Washington, Md.**

- 1107. *Over Autumnal Hills* (Gal. 3.)
- 1108. *Lowland Pastures* (Gal. 3).

**Young, Charles Morris, Gettysburg.**

- 1150. *Wet Weather* (Gal. 6).
- 1151. *The Harvest of Death, the Wheatfield at Gettysburg, after the Battle.* (Gal. 110).



## WATER COLORS.

### Pastels, Black and White Works, Etchings, Etc.

To be found in galleries 2, 81, 94, 95, 129, 149-155, 165, 170, 176-179 and in the four central stairways.

[Works not described are Water Colors.]

#### Beaux, Cecilia, Philadelphia.

1998. *Portrait* (Pastel), (Gal. 178).

#### Bradley, Susan H., Philadelphia.

1165. *Mount Monadnuch, Dublin, N. H.* (Gal. 176).

#### Canby, Louise Prescott, Philadelphia.

1369. *Sunset* (Etching), (Gal. 185).  
1370. *Oswego Harbor* (Etching), (Gal. 185).  
1371. *Ice Shipping on the Kennebec* (Etching), (Gal. 185).

#### Castello, Eugene, Philadelphia.

1174. *Gate of Justice, Cario* (Gal. 177).

#### Dana, Charles E., Philadelphia.

1188. *Gruyeres* (Gal. 177).  
1189. *La Ferme D'Amont, Etretat, Normandy*, (Gal. 2).  
1190. *Street in Morat, Switzerland* (Gal. 176).  
1191. *A Doorway at Arles, South of France* (Gal. 179).

#### Faber, Erwin F., Philadelphia.

1397. *Thrown* (Etching), (Gal. 185).  
1398. *St. Philips, Charleston* (Etching), (Gal. 185).  
1399. *Repentance of Eve* (Etching) (Gal. 185).

#### Ferris, Stephen J., Philadelphia.

1403. *Six Etchings* (Gal. )  
2169. *Fortuny Lying in State* (Gal. 94).

#### Faber, Hermann, Philadelphia.

1400. "*Faust*," *Mastiff* (Etching) (Gal. 185).  
1401. *Study of a Lion's Head* (Etching) (Gal. 185).  
1402 *The Challenge* (Etching) (Gal. 185.)

#### Lindsay, Albert M., Philadelphia.

##### WOOD ENGRAVINGS

(Gal. 151).

1890. *The Coup*.  
1891. *Bowling*.  
1892. *The Singing Shepherd*.  
1893. *A Chinese Restaurant*.  
1894. *A Golden Wedding*.  
1895. *Yosemite Dome*.  
1896. *A Relie of the Departed South*.  
1897. *Shades of Evening*.  
1898. *An April Birthday at Sea*.

1899. *The Departure to the Convent.*

1900. *Presentation of a Circus to a Spanish Town.*

**Moran, Emily K.,** Philadelphia.

1456. *On the Road to the Farm (Etching)*  
(Gal. 185).

**Moran, Peter,** Philadelphia.

ETCHINGS (Gal. 185.)

1469. *Return of the Herd.*

1470. *A Summer Afternoon.*

1471. *Under the Willows.*

1472. *An Old New England Orchard.*

1473. *A Passing Storm.*

1978. *A Country Smithy.*

**Nattress, George,** Philadelphia.

2686. *Remains of King Ina's Palace, Somerset, England.* (Gal. ).

**Parrish, Stephen,** Philadelphia.

1489. *A Gale at Fecamp.*

1490. *Swamp Land.*

1491. *Winter Evening,*  
*Windsor, N. S.*

1492. *Gloucester Harbor (Dry Point).*

1493. *Portland, New Brunswick.*

1494. *Market Place, Yvetot.*

1495. *Northern Moorland.*

1496. *Riverdale.*

1497. *On the Dec, Chester.*

1498. *On the Thames.*

1499. *Near Dinan, Brittany.*

1500. *Market Day, St. Augustine.*

1501. *Mills, New Brunswick.*

1502. *Winter at Windsor,*  
*N. S.*

1503. *Bass River, Cape Cod.*

1504. *New Quebec.*

1505. *Near Frejus.*

1506. *Bethlehem, Penn'a.*

1507. *Canal, Venice.*

1508. *Port of Nice.*

1509. *On Cape Ann.*

1510. *On the Rance, Brittany.*

1511. *Winter.*

1512. *Charenton, Paris.*

1513. *A Passing Shower.*

1514. *Port of Cannes.*

All above are Etchings, (Gal. 170).

**Reed, Charles H.,** Philadelphia.

1935. *Illustration, Sarah Crew*  
(Wood Engraving)  
(Gal.—).

1936. *On the Lowest Step of the Deserted House, St. Pasquale,* (Wood Engraving) (Gal.—).

**Robinson, Will S.,** Philadelphia.

1303. *Arrival of the Boats*  
(Gal. 177).

1304. *In the Harbor* (Gal. 177).

**Rosenthal, Max,** Philadelphia.

1537. *Crossing the Brook*  
(Etching).

1538. *Portrait, George W. Childs* (Etching).

1538a. *High Altar, St. Patrick's Cathedral, New York City* (Gal. 185).

1979. *Romola* (bet. Gal. 170 and 185).

**Ritchie, Henrietta,** Philadelphia.

1535. *The Connoisseur* (Etching).

1536. *Race Street Wharf, Philadelphia* (Gal. 185).

**Senat, Prosper L., Philadelphia.**

1315. *Capri, from Sorrento* (Gal. 177).  
 1316. *A Corner in San Remo* (Gal. 177).  
 1317. *The River Bed at Ventimille* (Gal. 179).  
 1318. *Head of the Creek, Kennebunkport* (Gal. 178).

**Sartain, Emily, Philadelphia.**

1539. *In the Gloaming* (Etching) (Gal.—).

**Sartain, John, Philadelphia.**

1980. *Irene* (Etching) (Gal.—).

**Stephens, Alice Barber, Philadelphia.**

2440. *Music* (Black and White) (Gal. 81).  
 2441. *"Their Perfume Flooded the House"* (Gal. 81).  
 2442. *A Philadelphia Quaker* (Gal. 81).

**Thouron, Henry, Philadelphia.**

2740. *The Evangelists* (Gal. 95).  
 2742. *The Lord's Prayer* (Gal. 95).

**Van Trump, R. N., Philadelphia.**

1355. *Portrait, Miniature on Ivory.*

**Woodwell, Johanna K., Pittsburg.**

1363. *Portrait of Miss L.* (Gal. 176).

**Williams, George P., Philadelphia.**

1957. *The Alderman* (Etching).  
 1958. *The Gladiators* (Etching).

**Weil, Gertrude, Philadelphia.**

2056. *Silence* (Pastel) (Gal. 179).

**Young, Charles Morris, Gettysburg.**

1364. *The Forest* (Gal. 176).  
 2052. *The Cornfield at Twilight* (Gal. 179).

## ARCHITECTURE.

(To be found in Upper Gallery Alcoves 143, 145, 146, 147, 149-155.)

**Ash, Percy**, 320 Walnut street, Philadelphia.

2537. *Study for a Country House.*

2537a. *Memorial Chapel on a Rocky Coast.*

**Bare, H. Bloomfield**, 430 Walnut street, Philadelphia.

2539. *Oak Altar Table, Seventeenth Century.*

**Boggs, Edward T.**, Pittsburgh, Pa.

2544. *Design for Monument.*

**Bisseger, John J.**, 731 Walnut street, Philadelphia.

2542. *An Art Museum.*

2543. *A Choragic Monument.*

**Burns, Charles M.**, 717 Walnut street, Philadelphia.

2550. *Design for Choir Screen of Metal, Church of the Redeemer, Bryn Mawr, Pa.*

**Cope, Walter**, 320 Walnut street Philadelphia.

2571. *Frame of Pencil Sketches.*

**Cope & Stewardson**, 320 Walnut street, Philadelphia.

2577. *Denbigh Hall, Bryn Mawr College, Pa.*

2575. *House at Merion, Pa.*

2578. *House at Overbrook, Pa.*

2573. *Design for Pennsylvania Company for Insurances on Lives, Philadelphia, (a).*

2574. *Design for Pennsylvania Company for Insurances on Lives, Philadelphia, (b).*

2572. *Design for Addition to Pennsylvania Railroad Station, Philadelphia.*

2576. { *Plan for Cathedral of St. John the Divine, New York City.*  
*Perspective for Cathedral of St. John the Divine, New York City.*

*A Country Stable.*

**Cooke, James H.**, 925 Chestnut street, Philadelphia.

2570. *Memorial Chapel on a Rocky Coast.*

**Day, Frank Miles**, 925 Chestnut street, Philadelphia.

193. *House for H. K. Caner, Philadelphia.*

194. *House for George Dunning, Germantown, Philadelphia.*

195. *Houses for Edwin R. Wood, Philadelphia.*

196. *Doorway of Art Club, Philadelphia.*



2586. *House for C. W. Bergner, at Ambler, Pa.*  
 2586. *House for H. K. Cummings, at Germantown, Philadelphia.*  
**Dempwolf, Reinhardt**, York, Pa.  
 2587. *Details of Restoration, Temple of the sun, Rome.*  
**Dull, John**, Drexel Building.  
 2588. *Study for a Pulpit.*  
**Everett, Herbert E.**, School of Architecture, University of Pennsylvania.  
 2591. *Design for Theatre Curtain.*  
**Eyre, Wilson, Jr.**, 927 Chestnut street, Philadelphia.  
 2595. *House at Southport, on Long Island Sound.*  
 2594. *House on Locust street, Philadelphia.*  
 2596. *Kebo Valley Club House, Bar Harbor, Me.*  
 2592. *Study for a Country House.*  
 2593. *House and Stable at South Bethlehem, Pa.*  
**Hayes, Frank A.**, Drexel Building, Philadelphia.  
 2620. *Sketch for a House.*  
 2619. *Sketch for a House near Upsal, Pa.*  
 2623. *Entrance to St. Joseph, in the Courtyard.*  
 2622. *Rear of Hamilton House, Philadelphia.*  
 2621 a. *Old Door, Clarkson street, New York.*  
**Henri, Robert**, 806 Walnut street, Philadelphia.  
 2625. *Color Study for Mural Decoration, Church of the Evangelist, Philadelphia.*  
 2624. *Color Study for Decoration, Christ Entering Jerusalem.*  
**Hickman, Louis C.**, 328 Chestnut street, Philadelphia.  
 2628. *Hardware for a Club House Door.*  
 2629. *Balcony on a Domestic Structure.*  
**Jackson, W. E.**, Chestnut Street, Philadelphia.  
 2638. *A Country House.*  
**Jamieson, James P.**, 320 Walnut street, Philadelphia.  
 2640. *Doorway and Window, Spanish Renaissance.*  
 2639. *Club Front, Italian Renaissance.*  
**Klauder, Charles Z.**, 328 Chestnut street, Philadelphia.  
 2650. *Balcony.*  
 2648. *An Art Museum.*  
 2649. *Club Front.*  
 2647. *Sketch, Madison Square Garden,*  
 2646. *A Choragic Monument.*  
**Lacy, Adin Benedict**, 320 Walnut street, Philadelphia.  
 2651. *Design, Cover for Year Book, T-Square Club, of Philadelphia.*  
**Munoz, A. C.**, Chestnut Hill, Pa.  
 2682. *Design for a Bell-Cote.*

**Nattress, George**, 430 Walnut street, Philadelphia.

2585. *Interior of an Oratory.*

**Price, F. L. & W. L.**, 731 Walnut street, Philadelphia.

2699. *Sketch for Stable.*

2698. *House for Mr. Monroe Smith.*

2697. *Sketch for Library.*

2700. *Sketch of Hall.*

2701. *Sketch of Church Tower near Pontoise France.*

**Stewardson, John**, 320 Walnut street, Philadelphia.

2725. *Sketches in Pistoja.*

**Thouron, Henry**, 729 Walnut street, Philadelphia.

5737. *The Angelus.*

2740. *An Evangelist.*

2741. *Fubilate.*

2738. *Adoration, Praise, Thanksgiving, Love.*

2739. *"I Will Draw All Things unto Myself."*

2736. *"I Am the Life, the Light and the Way."*

2731. *Stained Glass Cartoon.*

2732. *Stained Glass Cartoon.*

2733. *Stained Glass Cartoon.*

2734. *Stained Glass Cartoon.*

2735. *Stained Glass Cartoon.*

*Study for stained Glass, "Constancy."*

*Study for Mural Painting, "Prophets."*

2742. *The Lords Prayer.*

**Truscott, Arthur**, 136 South Fourth street, Philadelphia.

2747. *Balcony on a Domestic Structure.*

2746. *A Memorial Tower.*

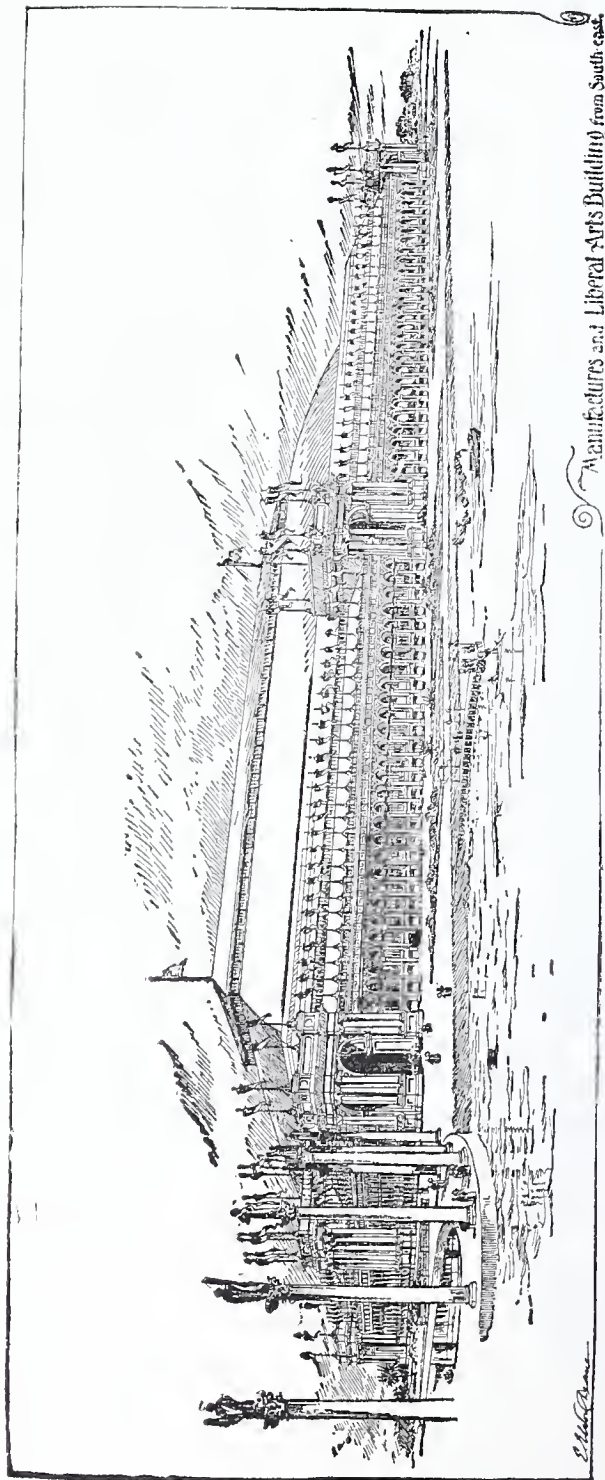
2748. *Front of an Office Building.*

**Van Pelt, John V.**, 69 Boulevard St. Michael, Paris, France.

2760. *Design for Island, in Park or Forest, No. 1.*

2761. *Design for Island, in Park or Forest, No. 2.*

2759. *Composition, Italian Renaissance.*



## DEPARTMENT L.

### Liberal Arts, Education, Literature, Engineering, Public Works, Music and the Drama.

The Manufactures and Liberal Arts Building is the largest and one of the handsomest buildings in the world. It is located on the Lake Front, between the U. S. Government and the Agricultural Buildings, with the Lagoon and the Electricity Building on its westerly side and the Lake on the east.

The Pennsylvania Educational Exhibit is mainly located in the gallery of the south-western corner, at the intersection of the two inside aisles, where Miss Sarah A. Stewart of Philadelphia welcomes all visitors.

The public schools, academies, colleges and universities are arranged in one group, and occupy 6,525 square feet of space. The art schools, in close proximity, cover with their exhibits 3,158 square feet of screens. The schools for the defective classes occupy 1,850 square feet of wall space and a small amount of floor space upon the western aisle near by, and the medical schools located in the south-western corner of the same gallery fill 200 square feet of floor.

The congregate exhibits of these several classes is fairly representative of the educational work which is being done in the State. Forty-six cities and counties are represented in the graded public school system. The leading cities of the State show a sequential development of school work from the first grade through the High School course. The Kindergarten, Manual Training, Drawing, Form and Color, Serving and Cooking, are each shown in their true relation to other courses of instruction, and mark an advance in educational method which ranks the State as second to none in a progressive public school course.

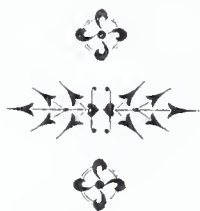
Seven normal schools, four colleges, three universities, four art schools, three medical schools, represent in creditable degree the work which is being done in higher education.

Below is a tabulated statement of the exhibit in each department.

In the north-east corner of the same building are to be found two series of charts which will prove intensely interesting to all students of the State's material progress and scientific status. The first prepared by the great statistician, Lorin Blodgett, of Philadelphia, graphically presents the marvelous wealth of the State as shown by industrial statistics.



The second, consisting of two sets of twelve charts each, hung on wing frames upon handsome brass standards, were prepared by the Meteorological Committee of the Franklin Institute of Philadelphia. One records the weather observations of the Institute as made by the aid of modern instruments and facilities, and the other the same service performed with less advantages half a century ago, proving that Pennsylvania led in this important work.



## PENNSYLVANIA STATE EXHIBITS.

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### OFFICIAL GROUP 149, (Class 149).

1. **Working Home for Blind Men, Philadelphia.** Case containing samples of the better class of work done by blind men—(Gallery, Section A—South-west corner of Gallery).

### OFFICIAL GROUP 149, (Class 150).

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#### Pennsylvania School Exhibits, Etc.

##### ALTOONA.

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#### Graded School Work in Common Branches.

##### First and Second Years.

Language, Number, Music—One volume.

##### Fifth and Sixth Years.

Arithmetic, Geography, Physiology, Language, Music—One volume.

##### Sixth Year.

Arithmetic, Geography, Physiology, Language—One volume.

##### Grammar Grades.

Arithmetic, Geography, History, Physiology, Language—One volume.

Form Study and Drawing—Three volumes.

##### High School.

Latin, German, Physics—One volume.

Form study; drawing from second grade through High School—  
Twenty-four charts.

Thirteen photographs, school buildings.

##### ALLEGHENY.

#### Graded School Work From First Through Eighth Year.

Arithmetic—Five volumes.

Geography—Four volumes.

History—Four volumes.

Language—Seven volumes.  
Drawing—Three volumes.  
Modeling—Two cases.  
Photographic Charts—Six cases.  
Form Work and Drawing—Two alcoves.

### High School Work.

Algebra, Arithmetic, Rhetoric—One volume.  
Latin—One volume.  
Bookkeeping—One volume.  
Miscellaneous Drawings—Two volumes.

### READING.

Graded Primary School Work—Two volumes.

### Secondary.

History, Geography, Language—Two volumes.  
Lessons on Plants and Animal Life, Physiology—One volume.

### GRAMMAR.

History—One volume.  
Geography—One volume.  
Arithmetic—Two volumes.  
Language—Two volumes.  
Physiology—One volume.  
Geographical and Constructive Drawings—Twenty-four charts.

### High School.—Boys.

English Literature, Latin, Greek, German—One volume.  
Mathematics—One volume.  
Case Minerals—One.

### High School.—Girls

Language, Literature, History—One volume.  
German, Latin—One volume.  
Natural Science—One volume.  
Mathematics—One volume.

### HARRISBURG.

### Graded Common School Work.

Arithmetic—Two volumes.  
Physiology—Two volumes.  
History—Two volumes.  
Language—Two volumes.

Geography—One volume.

Drawing—One volume.

Mounted Work in Drawing, from First year through High School,  
(Constructive, Life, Model, Design)—One alcove.

From Study expressed in Paper—Seven charts.

Geographical Modeling and Leaf Mounting—One case.

### High School.

Algebra—One volume.

Literature—One volume.

Latin, Greek—One volume.

English Language—One volume.

Natural Science—One volume.

Miscellaneous—One volume.

Drawing—Two volumes.

### PITTSBURGH.

#### Graded Common School Work From First Through Seventh Year.

Arithmetic—Seven volumes.

Geography—Four volumes.

Language—Six volumes.

History—Three volumes.

Physiology—One volume.

Drawing and Form Study—Seven volumes.

Elementary Modeling—Three cases.

Articles of Ornament and Use—One case.

Drawing and Design—Three alcoves.

Modeling and Constructive Drawing applied to Wood Carving.

### High School.

Photographic Charts showing Methods of Work in Physics,  
Biology, Commercial Business, Model and Constructive Draw-  
ing, Natural Science—Forty-one charts.

General Academic Work—Two volumes.

Normal School Work—Two volumes.

Commercial Business—One volume.

### CHESTER.

Arithmetic, English Composition—Two volumes.

Drawing—Eight charts.

### MEADVILLE.

Graded Sewing—One volume

**JOHNSTOWN.****Graded Common School Work From First Through Seventh Year.**

Language, Arithmetic, Geography—Four volumes.

**High School.**

Language, Arithmetic, Geography—One volume.

**TITUSVILLE.****High School.**

Algebra, Geometry, Chemistry, Physics, English, Greek, Rhetoric—Three volumes.

Drawing charts—Twelve.

**WILLIAMSPORT.****Graded School Work.**

Penmanship, Letter Writing—Two volumes.

Geographical Drawing—Four charts.

**SHENANDOAH.**

Graded Primary School Work—One volume.

Physiology, Music, Latin, Physical Geography, Mental Science—One volume.

Geographical Drawing—Four charts.

**BERWICK.**

Selected Work in Common School Branches—One volume.

**HAZLETON.**

Form Work—Twelve charts.

Graded School Work—One volume.

**NEWPORT TOWNSHIP.**

Graded School Work—One volume.

Form Work—Twelve charts.

**CORRY.**

Intermediate, Grammar, High School Work—One volume.

Mounted Kindergarten, Form Work, Maps, Model—Sixteen charts.

**SHIPPENSBURG, LANSDALE, BRISTOL.**

Graded School Work—One volume.

**BUCKS COUNTY.**

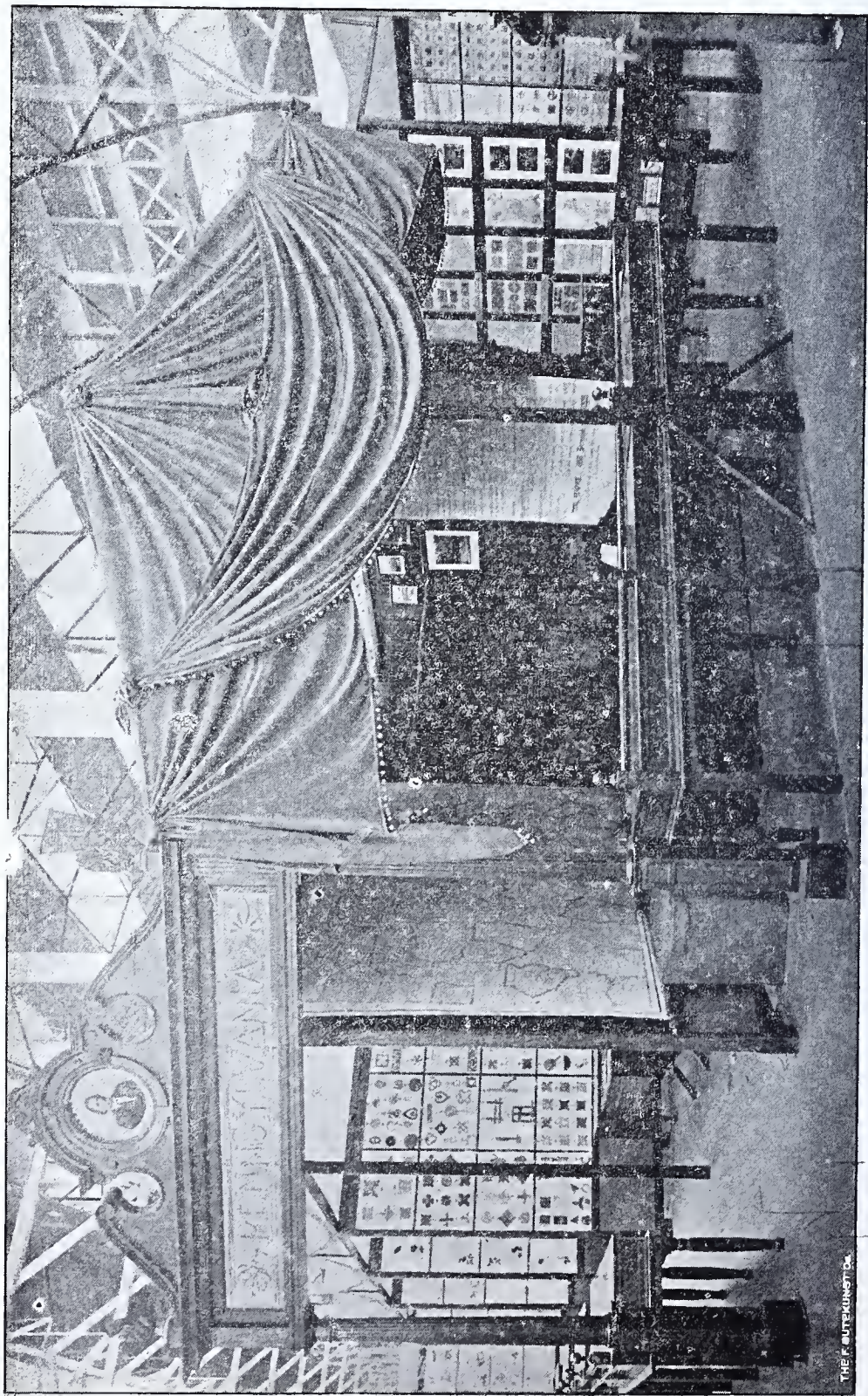
Graded Common School Work—Two volumes.

**LANCASTER, WEST BETHLEHEM, BEDFORD, BRADFORD,  
MOUNT PLEASANT, COUDERSPORT.**

Graded Common School Work—One volume each.







Main Entrance Pennsylvania Educational Exhibit—Liberal Arts' Building, (S. W. Gallery).





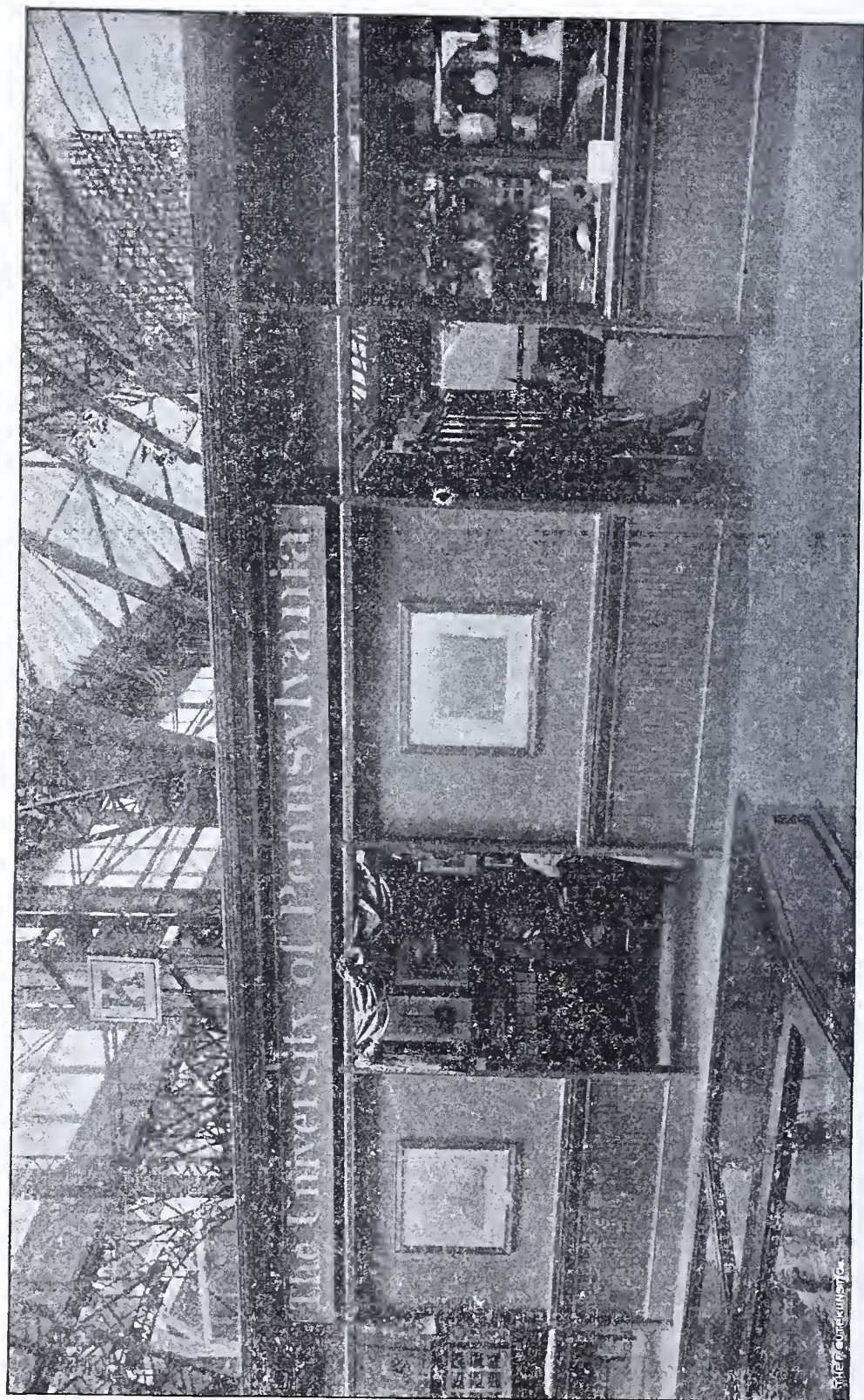


Exhibit of University of Pennsylvania—Liberal Arts' Building, (S. W. gallery).





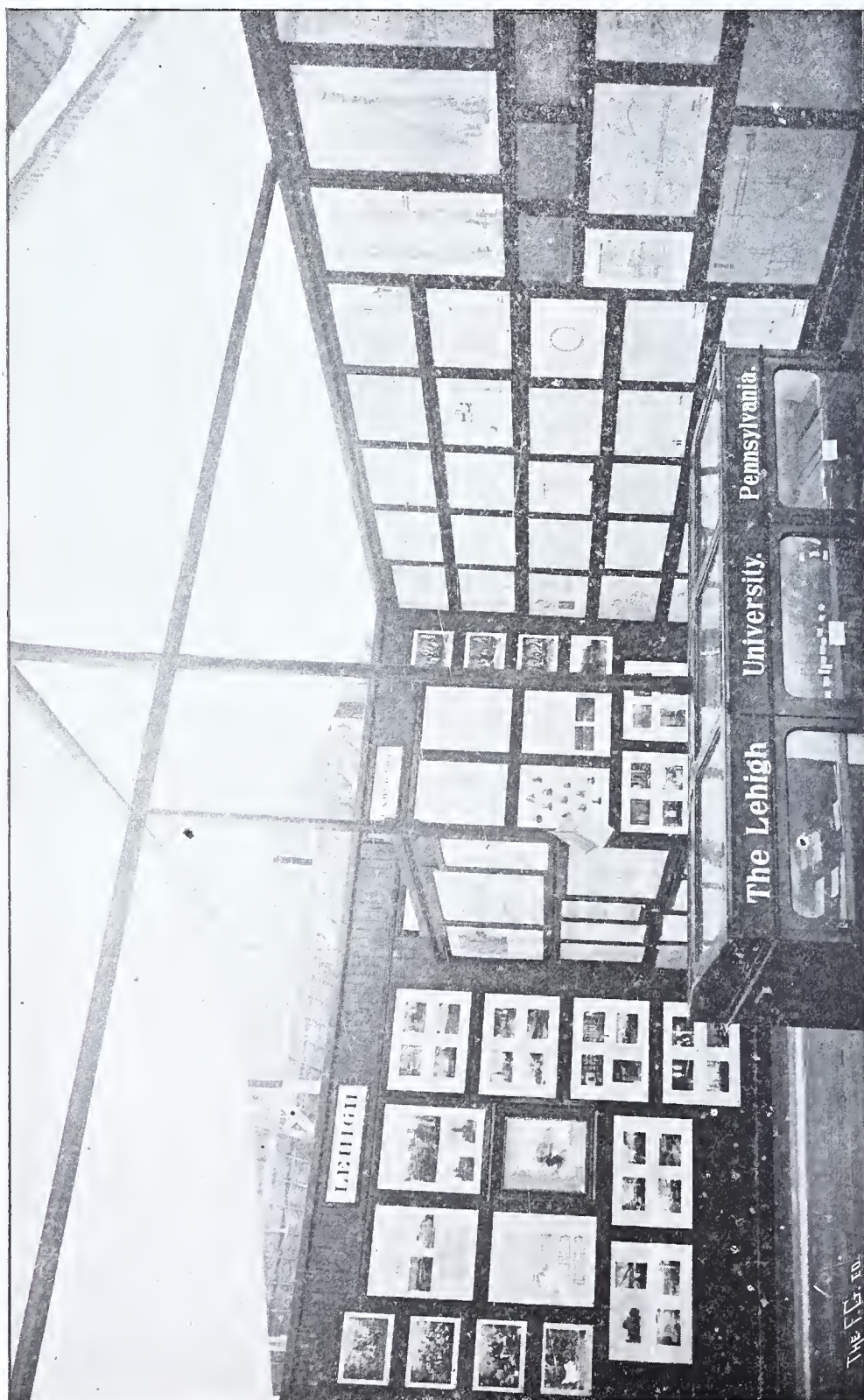


Exhibit of the Lehigh University—Liberal Arts' Building, (S. W. Gallery).

**BUTLER, ADAMS.**

Graded Common School Work—Two volumes each.

**ARMSTRONG, DELAWARE, LUZERNE, WASHINGTON.**

Graded Common School Work—One volume.

**LYCOMING, TIOGA, VENANGO.**

Graded Common School Work—One volume.

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**PENNSYLVANIA STATE NORMAL SCHOOLS.**

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**SLIPPERY ROCK.**

Civil Government, School Economy, Psychology, Geometry, Elocution, Methods—Seven volumes.

Botany, Physiology, Physics, Geography, Drawing, (Constructive, Life, Model, Object). Forty-eight charts.

**WEST CHESTER.**

Illustrative Normal School Work—Six volumes.

**KUTZTOWN.**

Illustrative Normal School Work—Four volumes.

Geographical Charts—Twelve volumes.

**BLOOMSBURG, INDIANA, SHIPPENSBURG.**

Illustrative Normal School Work—One volume each.

**MILLERSVILLE.**

Illustrative Normal School Work—Two volumes.

**PHILADELPHIA.****Kindergarten.**

Sewing, Weaving, Parquetry, Folding, Drawing, Modeling—Sixty-five charts.

Form Work from first through second year—One hundred and twenty-eight charts.

Modeling—Two cases.

**Elementary Manual Training.**

One case Sloyd with Charts of Constructive Drawing.

**Sewing.**

Five cases of garments made by pupils. One case patterns. One case of materials furnished by Board of Education. Drafting, Cutting, Making Garments from third through eighth year—Two cases, thirteen volumes, showing successive steps in the development of the work.

**Cooking.**

- Representative work in Cooking—Four charts.
- Course of Study—One volume.
- Photographs.

**Graded Common School Work.**

- Language—Nineteen volumes. Work from first through eighth year.
- Arithmetic—Thirteen volumes. Work from first through eighth year.
- Geography—Seven volumes. Work from third through eighth year.
- History—Six volumes. Work from fifth through eighth year.
- Physiology—Five volumes. Work from third through eighth year.
- Drawing—(Industrial, Constructive, Model, Object, Design).

**Mounted Work from First Through Eighth Year.**

- Geography—One hundred and fifteen charts.
- History—Twenty charts.
- Drawing—One hundred and seventy-two charts.
- Form Work—Fifty-five charts.

**High School—Boys.**

- Physical Geography—Four volumes.
- Rhetoric, Composition—one volume.
- History—one volume.
- Catalogues—Three volumes.
- Constructive Drawing and Design—Thirty-seven charts.
- Mounted Work—Twenty charts.

**High and Normal School—Girls.**

- Geographical Drawing—Three volumes.
- Botany and Drawing—One volume.
- Composition—One volume.
- Physical Geography—One volume.
- Methods of Teaching—One volume.
- Form and Drawing—Forty-seven charts.
- One case of garments illustrating sewing.

**Manual Training School.**

- History—One volume.
- German—One volume.
- Algebra—One volume.
- Inorganic Chemistry—One volume.
- Literature—Three volumes.

Trigonometry—One volume.

Electricity—One volume.

Algebra and Analytical Geometry—One volume.

Economic Botany—One volume.

### **Drawing.**

Design—One volume.

Designing in Color—One volume.

High Light and Shade—One volume.

Model and Geometrical—One volume.

### **Drawing Applied to—**

Science, Architecture, Literature, History, Construction—Four large portfolios.

### **Charts Showing Work in History, Geography, Science, Language, Etc.**

Smithing, Moulding, Casting—Three mounts.

Pattern Making, Wood Carving—Four mounts, two cases.

Modeling—Two mounts.

Model Steam Engine—One case.

Pieces of Wrought Iron Work—Six.

Electricity—One mount.

Catalogues, Course of Study.

Photographs.

### **UNIVERSITY OF PENNSYLVANIA.**

Laboratory of Experimental Psychology.

Chronograph with double time recording apparatus.

Color Mixer, with device for changing colors.

Rate of Movement Apparatus for determining the time of a hand movement.

Apparatus for presenting flash of white light.

Contour apparatus for tracing outline of a body.

Microtome.

Pathological preparations, showing common diseases of domestic animals.

Thirty-day Clock.

Series of photographs illustrating animal locomotion.

Architectural screens:

Two cases of publications.

### **Museum of Archaeology.**

Wood, iron and copper objects illustrative of Archaeology of Delaware Valley.

### **Babylonian Antiquities.**

Inscribed stone.



Clay tablets.  
Bricks.  
Objects of pottery.  
Seal cylinders.  
Gold jewelry.  
Plaster casts and photographs.

#### **Egyptian Antiquities.**

Mummies encased.  
Funeral objects.  
Common objects of wood, bronze, bone.  
Historical inscriptions.  
Illustrations of glass industry and pottery.  
Cyprian pottery.  
Greek pottery.  
Roman glass.  
Egyptian textiles, illustrating customs in Equatorial Africa.  
Photographs; Interior and Exterior College Buildings; Classes  
and College Societies; Athletic Sports.  
Architectural Drawings in Ink, Pencil and Water Colors.

#### **BRYN MAWR COLLEGE.**

Models of Ground and Buildings.  
Charts of Undergraduate and Graduate Courses of Study.  
Charts of Statistics.  
Publications.  
Photographs of Interiors and Exteriors.  
Models of Gown and Hood, Cap and Gown.

#### **GIRARD COLLEGE.**

Photographs, Grounds, Interiors, Exteriors.  
Geometrical and Constructive Drawing—Eighteen charts.  
Model and Object Drawing—Thirteen charts.  
Manual Work in Steel and Iron—Two cases.  
Manual Work in Wood—Three cases.  
Model of Steam Engine—One case.  
Model of Bridge—One case.

#### **FRANKLIN AND MARSHALL COLLEGE—Lancaster.**

Documents.  
Catalogues.  
Publications.  
Portraits of Presidents and College Views.  
Zurich Bible, 1541.  
Barbara Fritchie's Bible, 1771.





Exhibit of Ogontz School—Liberal Arts' Building, (S. W. Gallery).







GUTEKUNST CO.

Portion of Pennsylvania State Educational Exhibit—Liberal Arts' Building, (S. W. Gallery).





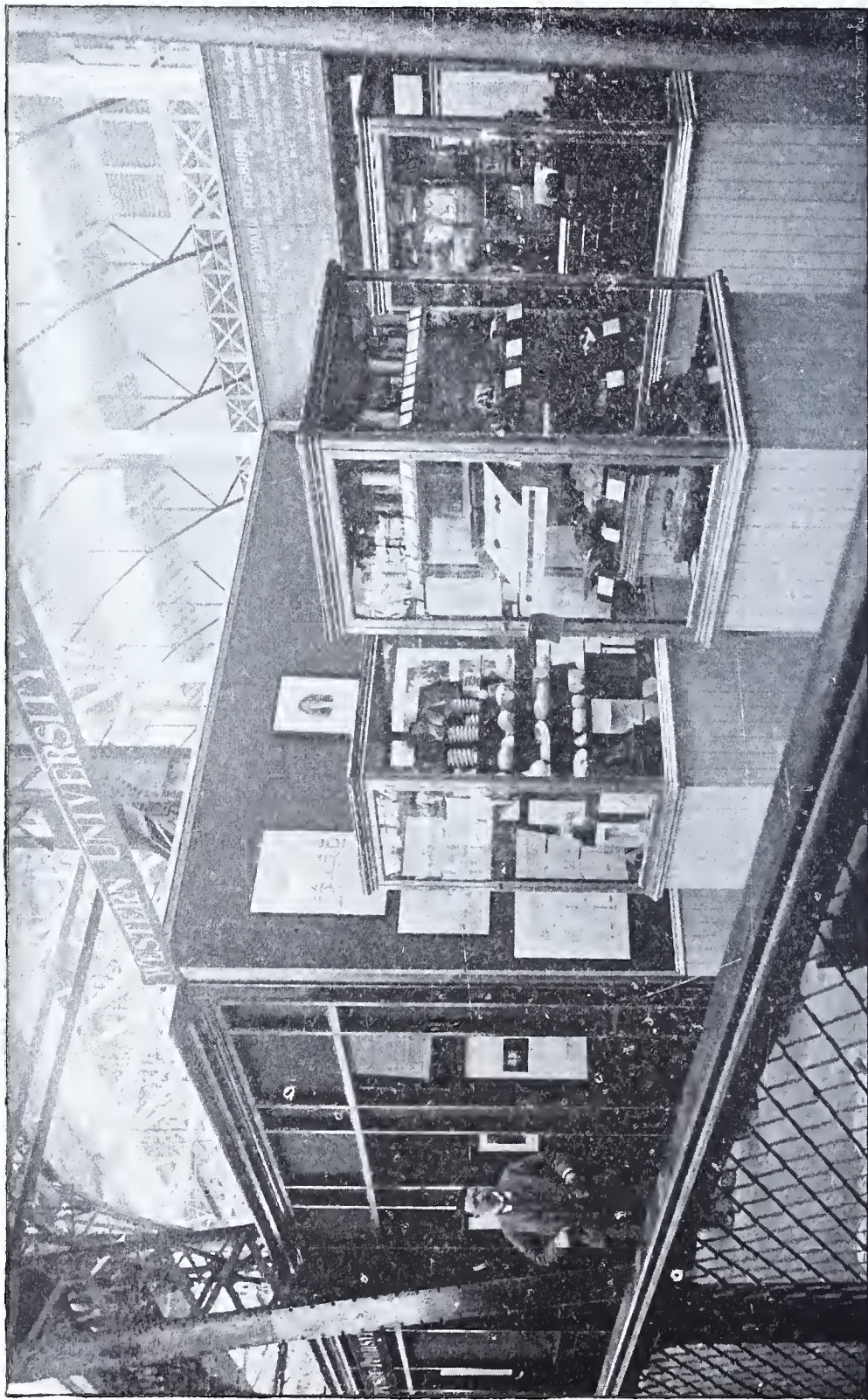


Exhibit of Western University of Pennsylvania—Liberal Arts' Building, (S. W. Gallery).

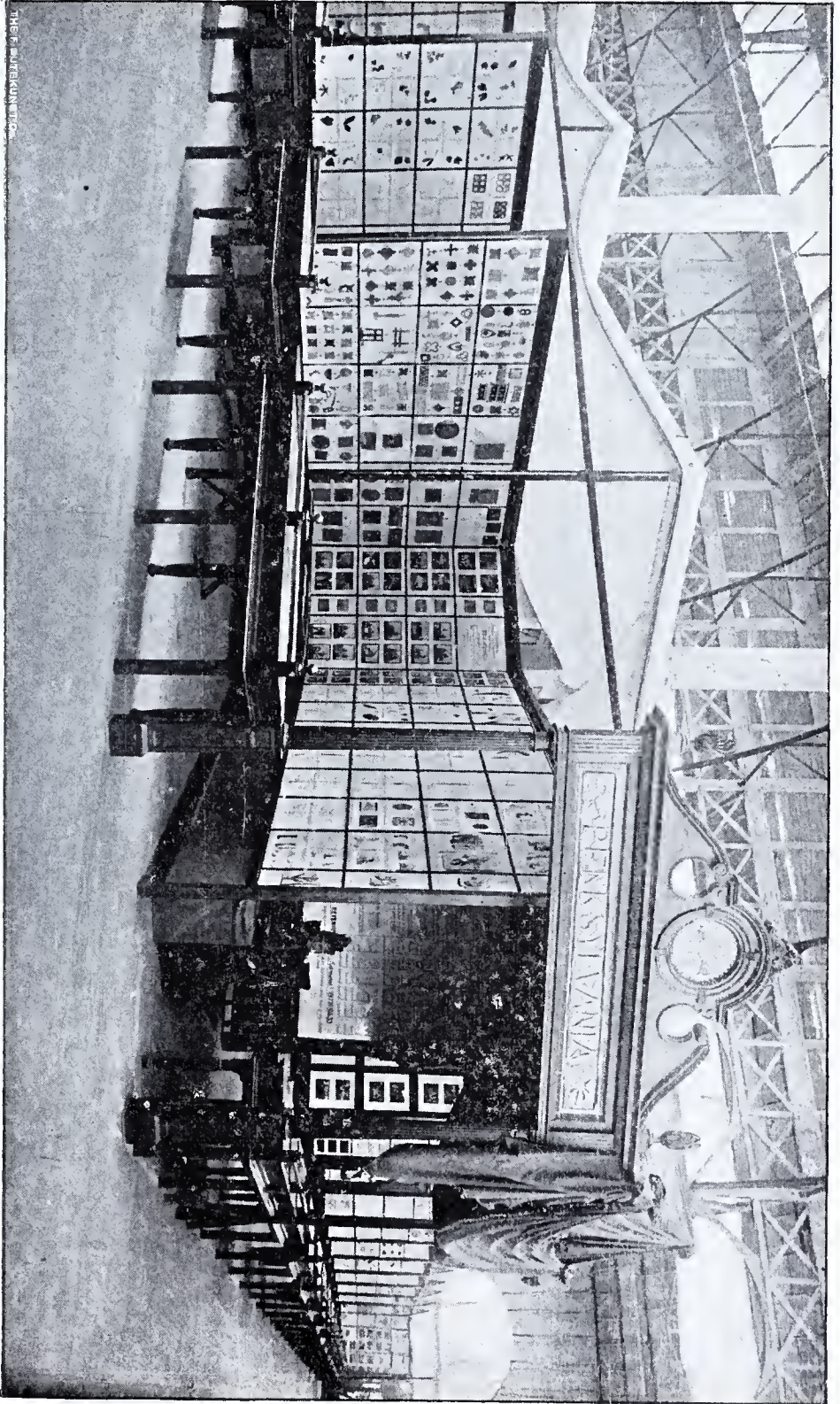


Philadelphia School of Design—Original Etchings, Designs, etc.—Liberal Arts Building (S. W. Gallery).







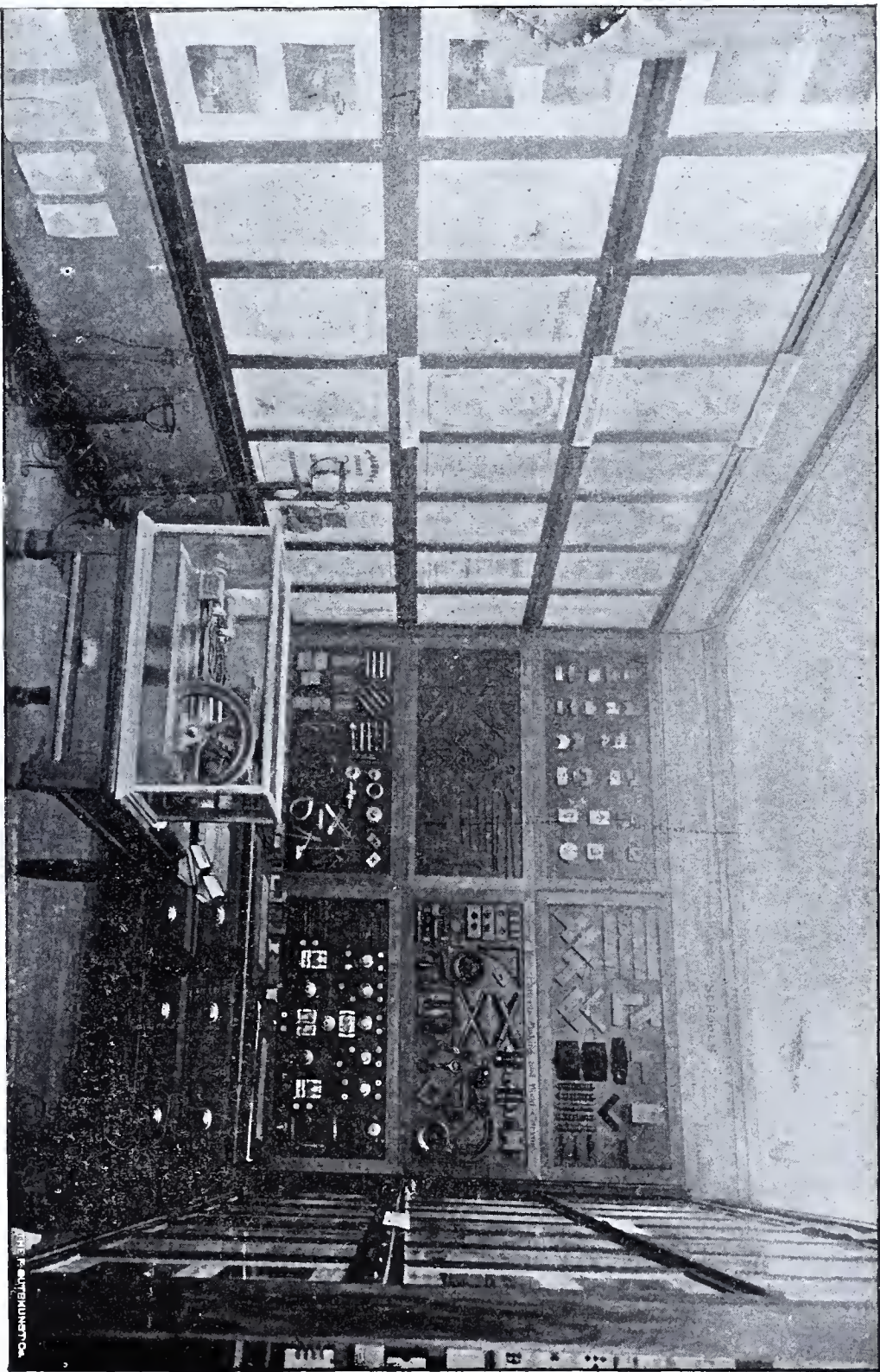


THE S. M. B. QUANTICO

Portion of Educational Exhibit—Liberal Arts' Building, (S. W. Gallery).







Portion of Pennsylvania State Educational Exhibit—Liberal Arts' Building, (S. W. Gallery).





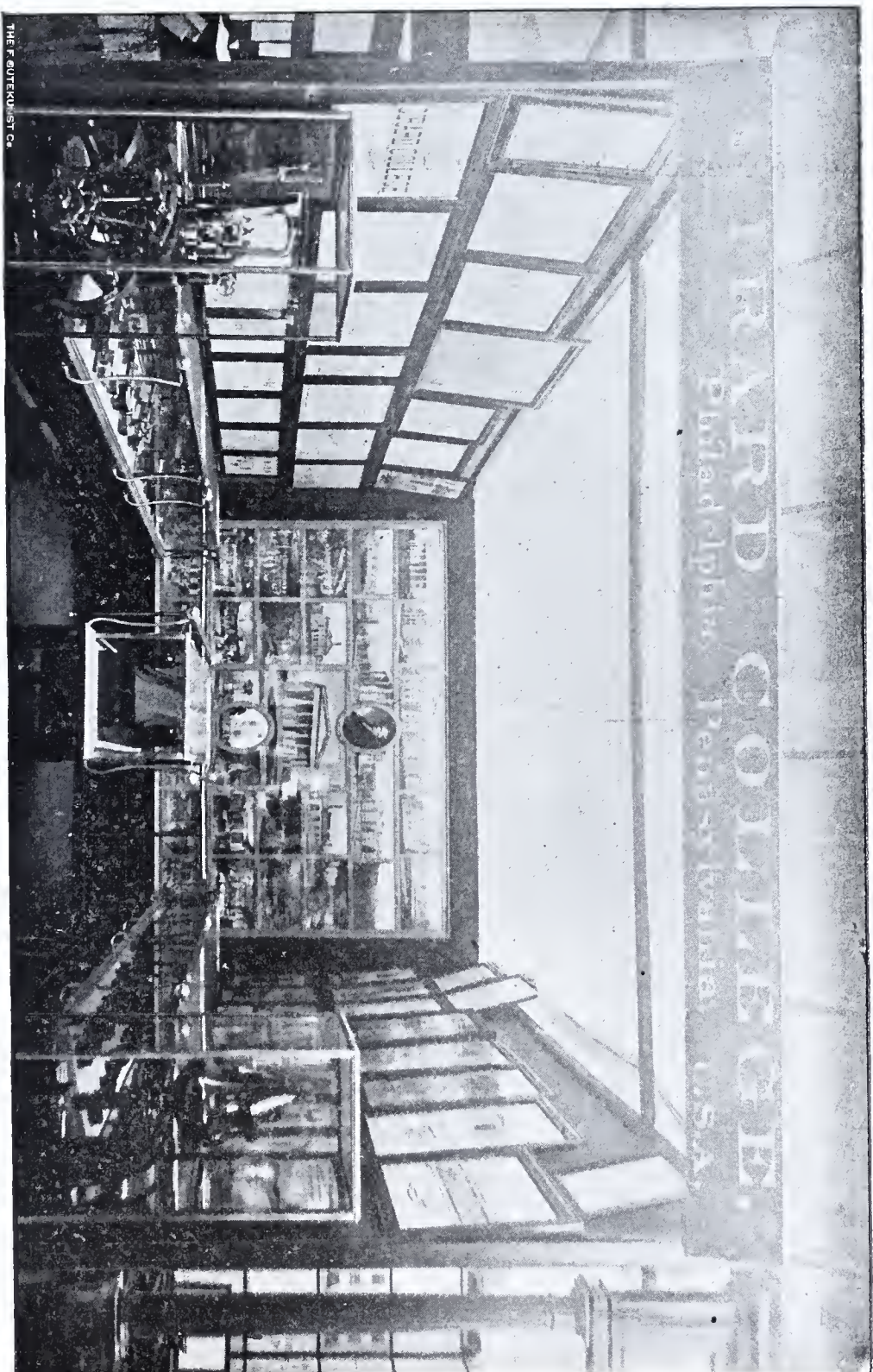


Exhibit from Girard College—Liberal Arts' Building. (S. W. Gallery).



Manuscript, (Roman Missal, Twelfth or Thirteenth Century).

Luther Memorial, 1546.

Letter signed by the Trustees of Franklin and Marshall College,  
1787.

Letter by Dr. Benjamin Rush, signer of the Declaration of Independence, 1788.

Catalogue of College, 1810.

Photograph of Telescope.

### OGONTZ SCHOOL.

Bronze Head of Ogontz.

Photographic Views of the Exterior of Buildings.

Emblem of Ogontz School in Water Colors.

Photographic Views of the Interior of the Classes at Work.

Work of Students in Water Colors.

Work of Students in Oil.

Work of Students in Black and White.

Work of Students in Modeling Clay.

Charts of Chemical Analysis.

Botanical Specimens.

Astronomy.

Compositions and Themes for Classes in English.

Copies of the Ogontz Mosaic.

Ogontz Hymnal, containing Contributions from Class in Harmony.

Compositions and Note Books from Classes in English Literature.  
Specimen Maps in Ancient History.

Specimen Diagram for Classes Studying History of Art.

Note Book of Pupils in History of Art.

Note Book in Modern History.

Cash Books by Pupils.

Ogontz Memorial Spoons.

Ogontz School Pin.

Ogontz Flag.

Illustrated Catalogues of Yearly Art Exhibitions.

Circulars, Programmes of Commencement Exercises and Entertainments.

Desk Designs expressly for use in the Ogontz School.

### PENNSYLVANIA ACADEMY OF FINE ARTS.

Drawings from the Antique.

Color Studies from Still Life.

Color Studies from Head.

Color Studies from Figure.



Drawings from Figure.  
Drawings from Head.  
Landscape Sketch.  
Modeling of Figure.  
Modeling of Head.  
Composition.

#### PENNSYLVANIA MUSEUM AND SCHOOL OF INDUSTRIAL ART.

Work of Art and Textile Schools.  
Drawing, Designs.  
Plaster Casts.  
Carved Furniture.  
Textiles.  
Work of School of Dyeing, Stained Glass, Carpets, Wall Paper,  
etc.

#### SPRING GARDEN INSTITUTE.

Drawings from Casts.  
Drawings from Life.  
Designs for Industrial Use.  
Architectural Drawings.  
Mechanical Drawings.  
Wood Work (Workshop Schools).  
Metal Work (Workshop Schools).  
Exhibits of Night School.  
Exhibits of Day School.

#### PHILADELPHIA SCHOOL OF DESIGN FOR WOMEN.

##### Applied Art.

Practical Design.  
Eight Designs for China Silk.  
One Design Printed on China Silk.  
Seven Designs Wall Paper.  
One Chart Table Oil Cloth.  
One Design Stained Oil Cloth.  
Four Designs Linoleum.  
One Chart Design Cotton Prints.  
One Stained Glass.  
One Design Brussels Carpet.  
One Woven Ingrain Carpet.  
Two Designs Book Covers.  
Two Frames Pen Drawings from Nature.  
Three Frames Illustrations, Original for Newspapers.  
One Book Headings.

Four Original Compositions for Plates.  
Twelve Original Etchings.  
One Frame Explanatory of Process of Etching.

### **Decorated China.**

One Case of Plates, Cups and Saucers, Vases, etc.

### **Normal Art Course.**

Preparatory Class.  
One Frame Cast Drawings.  
Two Sepias from Cast.  
One Pencil from Plants.  
One Modeling from Nature,  
Three Historic Ornaments.  
Seven Drawings of the Head from Cast.  
Nine Drawings from Life.  
Twenty-two Water Colors from Nature.  
Twenty Oil Paintings from Nature.  
Seven Busts Modeled from Life.

### **LEHIGH UNIVERSITY.**

Photographs interiors and exteriors.  
Statistics, charts and maps.  
Examination questions.  
Publications of the university.  
Publications of the Alumni Association.  
Books edited and written by professors, instructors and alumni.  
Articles and pamphlets written by professors, instructors and alumni.  
Exhibits by Edmund M. Hyde, Professor of Latin.  
Classical course: Graduating theses of students  
Mechanical engineering: Graduating theses of students.  
Electrical engineering: Graduating theses of students.  
Exhibits by students.  
Civil engineering: Framed drawings by students.  
Civil engineering: Sets of drawings, note books and graduating theses of students.  
Chemistry: Dyes and chemicals made by students. Photographs, note books and graduating theses of students.  
Metallurgy: Framed drawings of students. Note books, reports and graduating theses.  
Mining: Graduating theses of students.  
Register.  
Bibliography.

**PENNSYLVANIA STATE COLLEGE.**

Collection of chemical preparations.

Products showing systematic and progressive work in different departments in an industrial university.

Drawings: Outline objects, shading, plant analysis for design, design and color.

Twenty plaster casts made by students from their modeled work in clay.

Charts, photographs and publications showing equipment of and lines of work followed by the Agricultural Experimental stations.

Plans for the improvement of a dairy farm.

Charts, photographs and tabulations showing the equipment and methods of instruction of the Agricultural Department.

Exhibit of the Chautauqua course of Home Reading in agriculture.

Students' designs and drawings showing progressive order of work.

Specimens of work in elementary course in Mechanic Arts.

Portfolios containing specimens of students' practice in Geology, Botany and Biology.

Exhibit of garden tools.

Colored diagrams showing the exact relation of parts in the several technical and general courses.

Photographs showing grounds, buildings, equipments and processes.

**WOMAN'S MEDICAL COLLEGE.**

Photographs of buildings and lecture rooms.

**PENNSYLVANIA INSTITUTION FOR FEEBLE-MINDED CHILDREN.**

Drawings—Thirty-six.

Maps—Thirteen sheets.

Portfolio of Number work.

Language Work—One volume

Kindergarten—Two volumes.

Material and appliances.

School Program.

Charts.

Chart tables.

**Industrial Work.**

Two hats.

Two Aprons



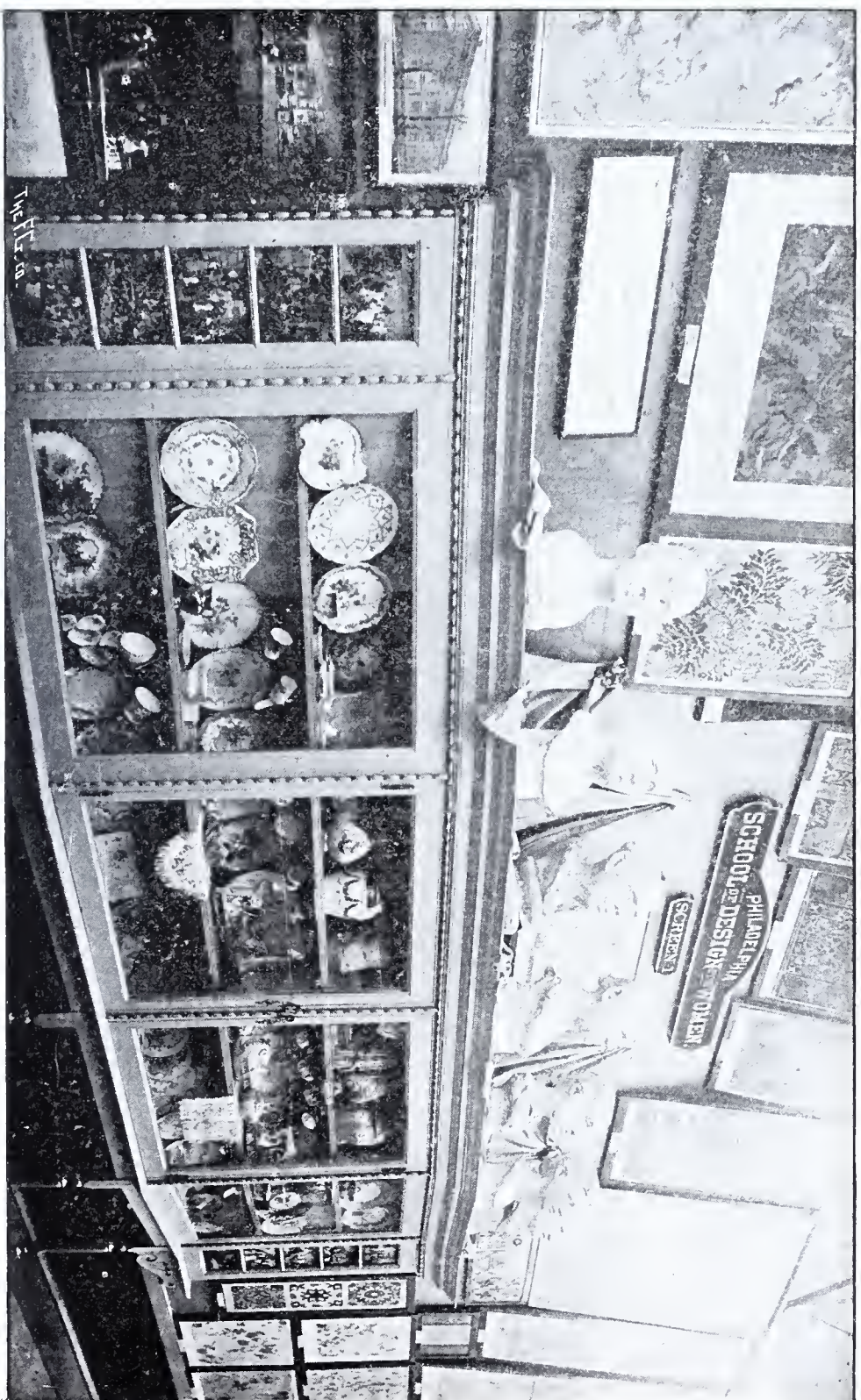


Exhibit of Philadelphia School of Design for Women—Liberal Arts' Building, (S. W. Gallery).





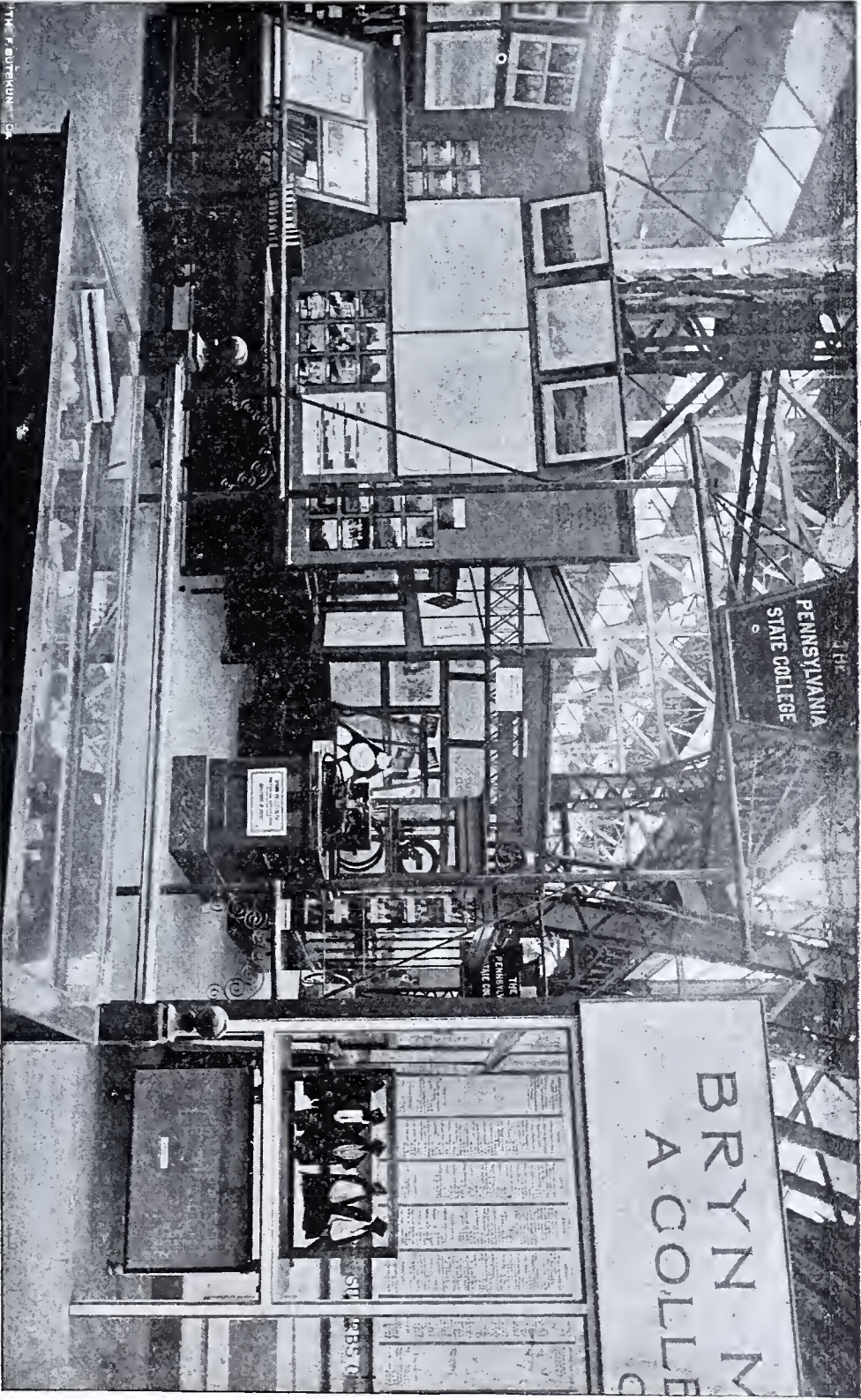
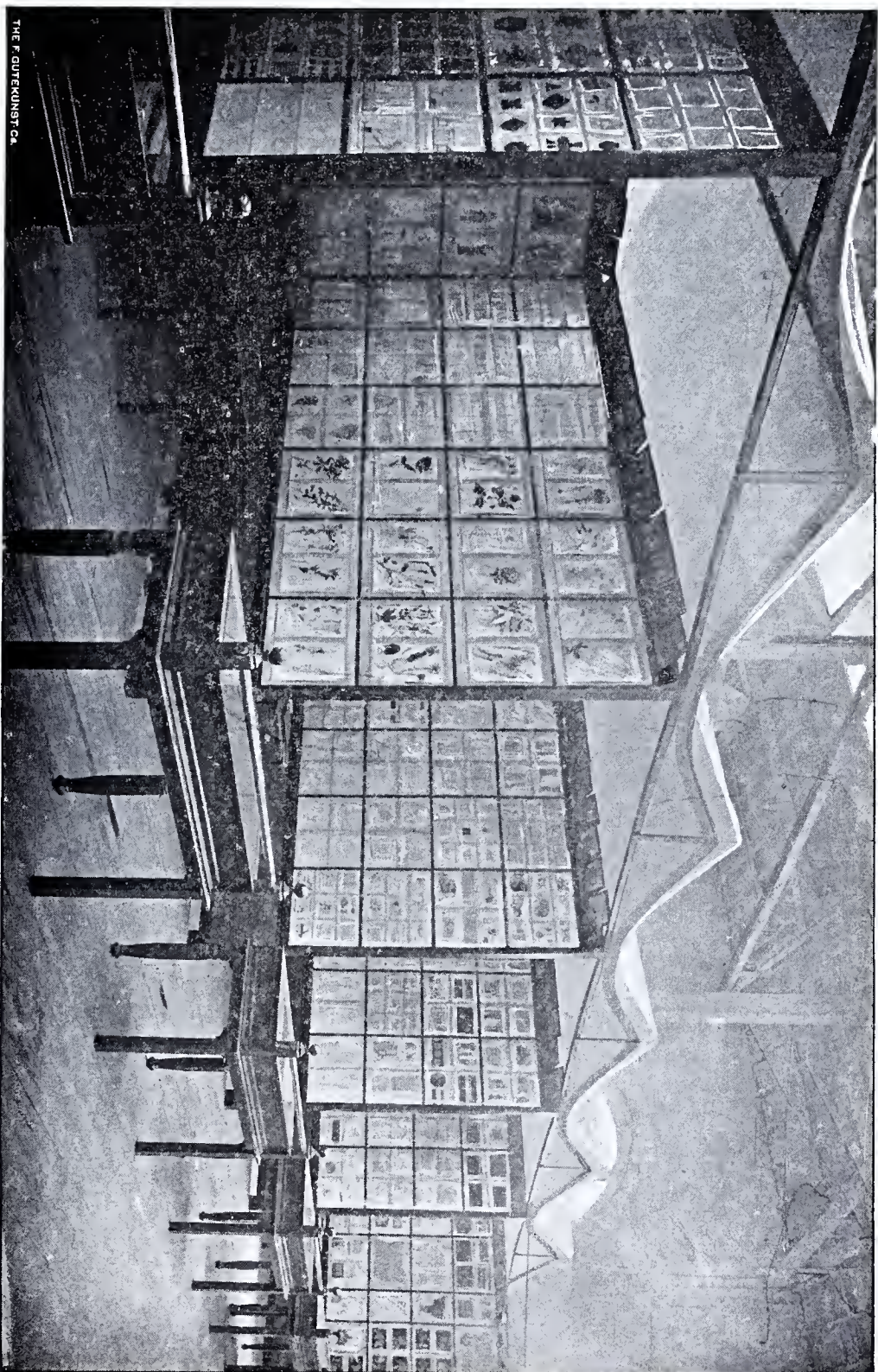


Exhibit of Pennsylvania State College—Liberal Arts' Building, (S. W. Gallery).







THE F. GUTENKUNST CO.

Portion of Pennsylvania Educational Exhibit—Liberal Arts' Building, (S. W. Gallery).





Two shawls.

Fourteen samples of industrial work.

Twenty-one articles of ornament and use.

Fifty-eight small photographs.

Six large photographs.

Four general plans.

#### UNITED STATES INDIAN INDUSTRIAL SCHOOL.

One wagon, made for the United States Government.

#### Carpentry.

Doors, shutters, desk, various ways of joining cabinet wood work.

#### Blacksmith.

Horseshoes, blacksmith tools, hatchet blades, iron work for wagons, steam pipe fittings, tinware, coffee pots, cups, buckets, pans.

#### Harnessmaking.

Two double sets of harness, one single set.

#### Shoemaking.

Men's and women's shoes, high and low.

#### Dressmaking.

Plain sewing, mending, darning and knitting. Several specimens of embroideries in silk, linen, cotton.

#### China Painting.

Several specimens of china painting.

#### Graded Common School Work from First Through Ninth Grade.

Arithmetic, Geography, Language, Drawing, Physiology, Spelling, History.

Elementary wood work done by class.

Crayon drawing, drawing in oil.

Photographs: Individuals and in classes.

#### WESTERN UNIVERSITY—PENNSYLVANIA.

#### Photographs.

Interiors, Exteriors, Faculty, Board of Trustees, Distinguished Alumni.

#### Printed List Treatises.

Original Researches in Allegheny Observatory.

#### Original Form of Bolometer.

Samples of Minerals from the Smith Observatory.

**Drawings.**

Engineering, draughting from the Freshman to the Senior year,  
in Engineering College.

From Freshman Class.

From Sophomore Class.

From Junior Class.

From Senior Class.

**Carpentry Work.**

Freshman Class.

**Wood Turning.**

Freshman Class.

**Pattern Making.**

Sophomore Class.

**Pipe Fitting.**

Sophomore Class.

**Forging, Chipping, Filing.**

Sophomore Class.

**Machine Tool works.**

Junior Class.

**Selections from Mathematical Models.**

Prof. R. T. Stewart.

1. Wire Models.
  2. Paper Models—fixed.
  3. Plaster Models.
  4. Folding Models.
  5. Transformable Models.
- Chart of Chemical Compounds, 39 experiments—original.

**OFFICIAL CROUP 151 (Class 872)****Pennsylvania State Weather Service.**

(a) Fifteen weather charts from 1887 to 1892 (showing among other things, location and extent of Johnstown Flood).

(b) Fifteen weather charts from 1837 to 1842 (location 'North-East Corner of gallery).

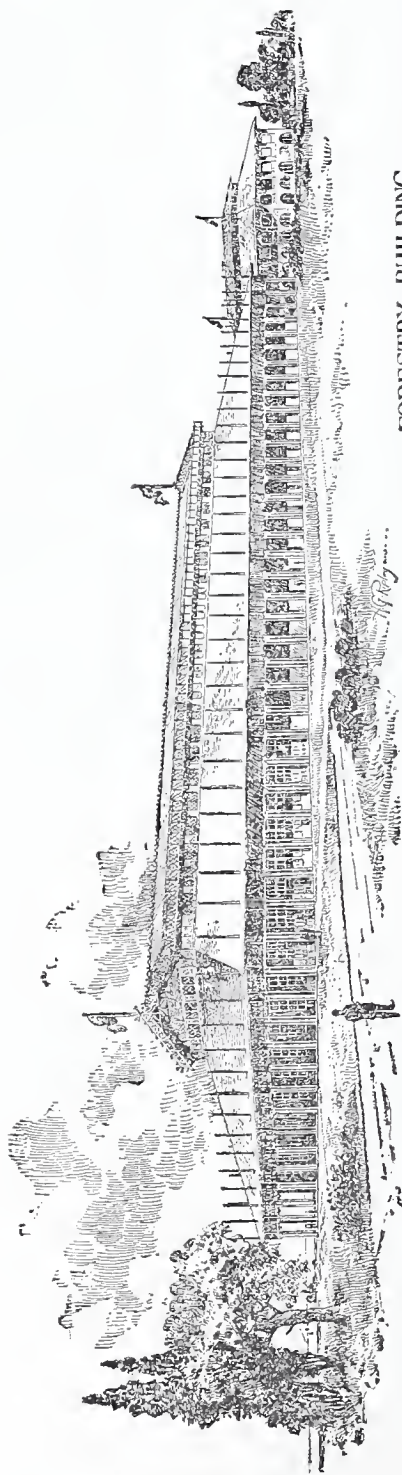
**Bureau of Charities and Corrections.**

The exhibits under this head are situated in the Anthropological Building which is at the southeasterly extremity of the grounds.

Pennsylvania's exhibits figure prominently in this building, those belonging in the Bureau of Charities and Corrections being more varied and complete than those from any other State. Their general location is in the south-west corner of the ground floor of building.

1. **Board of Public Charities** (Y-12).  
Seventy-two large charts of statistics and map of State showing the location of all charities and corrections.
2. **Eastern Penitentiary, Philadelphia, Pa.** (T-14).  
Model of building, separate cells and manikins, showing uniforms, statistical charts, etc.
3. **Western Penitentiary, Allegheny, Pa.** (S-14).  
Model of cell-house, of cell-blocks, samples of prison work.
4. **Huntingdon Reform School, Huntingdon, Pa.** (S-13).  
Model.
5. **Morganza Reform School, Morganza, Pa.** (W-12).  
Twenty photographs of building, weekly bill of fare, 2 manikins showing uniforms and 20 charts showing school work.
6. **Working Home for Blind Women, Philadelphia, Pa.** (W-9).  
Case containing work done by blind women, in large variety.
7. **Working Home for Blind Men, Philadelphia** (Southwest gallery of Liberal Arts Building).  
Photographs and samples of the work done by men.
8. **Children's Aid Society, of Philadelphia, Pa.** (W-9).  
Large frame containing pictures and statistics.
8. **Children's Orphan Schools at Huntingdon, Hartford and Chester Springs** (W-10).  
Photographs.
10. **Soldier's and Sailor's Home, Erie, Pa.** (W-9).  
Photographs.
11. **Bureau of Police, Philadelphia, Pa.** (V-14).  
Show case containing manikins, uniforms and weapons.
12. **Baptist Orphanage, Philadelphia, Pa.** (W-10).  
Statistical charts, six views of exterior and interior.
13. **Presbyterian Orphanage, of Philadelphia, Pa.** (W-11).  
Statistical charts, two cards of photographs, five cards of school work, one chart of general information.
14. **Beneficent Home, of Reading, Pa.** (W-10).  
One chart showing building.
15. **Widow's Home, Reading, Pa.** (W-9).  
One photograph of building.
16. **Jewish Hospital Association, Philadelphia, Pa.** (X-9).  
Four photographs and one chart of general information.





FORESTRY BUILDING,  
World's Columbian Exposition.

## DEPARTMENT N.

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### Forestry and Forest Products.

The Forestry Building is situated near the southeastern extremity of the grounds, upon the lake front and just east of the Anthropological Building. There is a station of the intramural railway at the West entrance.

A model sawmill made from handsome case of woods of Elk county, furnished by Henry Howson of Philadelphia, the collection of ninety-three varieties from Centre county, loaned by Samuel Brugger; the photographs of forest trees taken by Prof. J. T. Rothrock, and the remarkably beautiful paintings of forest leaves, especially made for this exhibit by Miss Grace Anna Lewis, of Media, constitute a series of special features which lend graceful adornment to the main collection of the forest trees of the State.

Added to this the State furnishes three of the triple columns which support the roof of the generous piazza which surrounds the entire building. These may be found a little north of the centre of the building, on the east side, facing the Lake.

The main exhibit is located immediately to the left of the north entrance of the building, the principal contents being as follows :

**Sixty-eight Samples of Forest Trees**, sectional blocks, half polished and half in natural state, surrounding the south and west sides of the exhibit in numerical order.

- |  |   |
|--|---|
| 1. <i>Quercus rubra</i> —Red Oak.                          | 10. <i>Fraxinus pubescens</i> —Red Ash.         |
| 2. <i>Tillia heterophylla</i> —Basswood.                   | 11. <i>Betula Lutea</i> —Yellow Birch.          |
| 3. <i>Populus monolifera</i> —Big Cottonwood.              | 12. <i>Amalanchia Canadensis</i> —Service Tree. |
| 4. <i>Quercus coccinea</i> —Scarlet Oak.                   | 13. <i>Juglans Nigra</i> —Black Walnut.         |
| 5. <i>Sassafras officinale</i> —Sassafras.                 | 14. <i>Platinus Occidentalis</i> —Sycamore.     |
| 6. <i>Castanea punila</i> —Chinquapin.                     | 15. <i>Quercus Macrocarpa</i> —Burr Oak.        |
| 7. <i>Prunus Serotina</i> —Wild Black Cherry.              | 16. <i>Pinus Resonosa</i> —Red Pine.            |
| 8. <i>Pinus Mitis</i> —Short-leaved Yellow Pine.           | 17. <i>Quercus Alba</i> —White Oak.             |
| 9. <i>Castania Sativa</i> var. <i>Americana</i> —Chestnut. | 18. <i>Platinus Occidentalis</i> —Sycamore.     |

19. *Hicoria Orata*—Shellbark Hickory.
20. *Liriodendron Tulipifera*—Yellow Poplar.
21. *Magnolia acuminata*—Cucumber.
22. *Alcoria porcina* — Pignut Hickory.
23. *Sassafras Sassafras*—Sassafras.
24. *Nyssa Sylvatica*—Black Gum.
25. *Pinus rigida*—Pitch Pine.
26. *Populus grandidentata*—Poplar.
27. *Pinus Strobus*—White Pine.
28. *Quercus unbricaria*—Shingle Oak.
29. *Quercus macrocarpa* — Burr Oak.
30. *Quercus prinoides* — Yellow Oak.
31. *Betula Lutea*—Yellow Birch.
32. *Tsuga Canadensis*—Hemlock.
33. *Nyssa Sylvatica*—Black Gum.
34. *Betula nigra*—Red Birch.
35. *Magnolia acuminata*—Cucumber Tree.
36. *Betula Lutea*—Yellow Birch.
37. *Robinia Pseudacacia* — Black Locust.
38. *Ostrya Virginica* — Black Hornbeam.
39. *Quercus prinoides* — Yellow Oak.
40. *Fagus ferruginea*—Beech.
41. *Prunus Serotina*—Wild Black Cherry.
42. *Juglans Cinera*—Butternut.
43. *Hicoria minima*—Bitternut.
44. *Nyssa Sylvatica*—Black Gum.
45. *Acer rubrum*—Red Maple.
46. *Quercus alba*—White Oak.
47. *Tsuga Canadensis*—Hemlock.
48. *Acer Berbatum*—Sugar Maple.
49. *Quercus rubra*—Red Oak.
50. *Fraxinus sambucifolia*—Black Ash.
51. *Quercus prinoides* — Yellow Oak.
52. *Nyssa uniflora*—Sour Gum.
53. *Quercus rubra*—Red Oak.
54. *Fraxinus Americana*—White Ash.
55. *Quercus rubra*—Red Oak.
56. *Quercus nigra*—Black Oak.
57. *Hicoria Sulcata*—Big Shellbark Hickory.
58. *Quercus Cocina*—Scarlet Oak.
59. *Cornus florida* — Flowering Dogwood.
60. *Acer rubrum*—Red Maple.
61. *Prunus Americana* — Wild Plum.
62. *Cornus florida* — Flowering Dogwood.
63. *Platanus Occidentalis* — Sycamore.
64. *Populus Tremuloides*—Aspen.
65. *Pinus Strobus*—White Pine.
66. *Ostrya Virginica*—Hop Hornbeam.
67. *Castanea Sativa* <sup>var.</sup> *Americana*—Chestnut.
68. *Rhus coronarica* — Sweet-scented Crab.

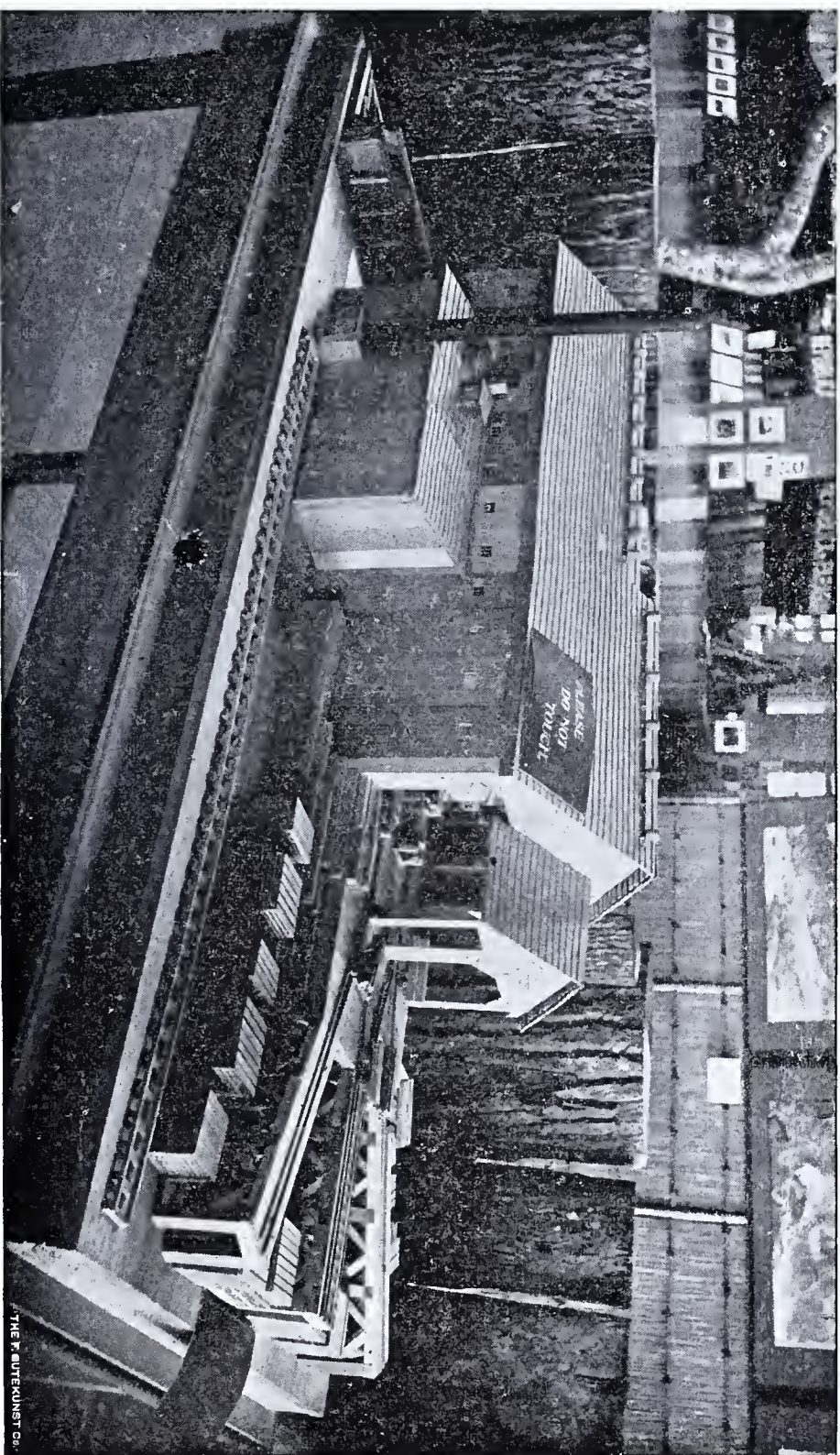






Forestry Exhibit, (Forestry Building).





Model Saw Mill—Forestry Exhibit.

THE F. AUTENUNST CO.



**Mr. Henry Howson's** collection, consisting of 693 samples of woods collected from all the commercial markets of the world, shown in a hard wood case divided into 12 sections, as follows :

**SECTION 1.** Sycamore, Magnolia (large), Buttonwood, Mangrove, Dogwood (2), Butternut, Soapberry, Bald Cypress, Hog's Haw, Guinea Plum, Laurel Root, Flowering Dogwood, Black Walnut, Staghorn Sumac, Cassena (Holly), Sloe, Sour Wood, Black Haw, Cottonwood, Pigeon Plum, Chinquapin, Hog Plum, Summer Haw, Black Mangrove, Mock Orange, Berry Cedar, Slippery Elm, Walnut Burl, Curly Black Walnut, Wild Hazel, Glamberry, Scarlet Thorn, Wax Myrtle, Prickley Ash, Paper Birch (2), Yellow Birch, Black Birch, Iron Wood, White Iron Wood, Wild Cherry, Linden, Trumpet Flower, Alder, Black Walnut Burl, Poplar, Beach Iron Wood, Sassafras, Lance Wood, Variegated Poplar, Prince Wood, Naked Wood, Sparkleberry, Lignum Vitæ, Domestic Cherry, Red Maple, Sugar Maple, Crab Apple, Large Magnolia, Mahogany, Sweet Gum, Dogwood, Catalpa, Water Locust, Barberry, East Mountain Ash, Basswood, Service Tree.

**SECTION 2.** Sloe, Wax Myrtle, Persimmon, Gum Elerni, Gurglon Stopper, Elder, Cucumber Tree, Sumac, Laurel, Glamberry, White Bay, White Stopper, Wild Orange, Pimento, Pawpaw, Chickasaw Plum, Small-flowered Drypetes, Naked Wood, Red Iron Wood, Dahoon Holly, Hog Plum, Cotton Tree, Mountain Mahogany, White Holly, Wild Mulberry, Mastic, False Boxwood, Silanthus, Persimmon, Silver Tree, Gray Birch, Dogwood, Dahoon, Wild Mulberry, Devil Wood (Wild Olive), Water Ash, Hackmatack, Wild Fig, White Elm, Titi, Ogeeche Lime, Apple, Marchionel, Poison Wood, Basswood, Cherry Birch, Crabwood, Japan Staff Tree, French Cherry, Red Bay, Hop Hornbeam, Staghorn Sumac, Nutmeg, String Bark, Geiger Tree, Silky Cornel, Rose Mallow, Honey Locust, Sassafras, White Lilac, Moosewood, Kentucky Coffee Tree, Red Beech, Judas, Large Magnolia, Cabbage Tree Palm, Silver Thatch, California Palm, Prickley Thatch, Royal Palm.

**SECTION 3.** Mahogany, Devil Wood, Chestnut, French Pear, Buckeye, Buttonwood, Indian Cherry, Cinnamon Bark, Hungarian Cherry, Honey Locust, Laurel, Big Alder, Aloe, Stiff Cornel, Pond Apple, French Pear, Butternut Hickory, Pear, Wild Cherry, Green Gage Plum, Seven Year Apple, Peach (old), Peach (young), Shell-bark Hickory, Water Hickory, Pignut Hickory, English Mountain Ash, American Mountain Ash, Prickly Ash, Hungarian Ash, White Ash, Variegated Ash, Green Ash, Bastard White Ash, Black Ash, Joe Wood, Red Bud Judas, Service Tree (root), Common Locust, One Seeded Locust, Black Oak, Turkey Leaf Black Oak, Willow Oak, Black Oak, Red Oak, Post Oak, Renna-leaved Black-jack Oak, Rock Chest-



nut Oak, Gray Oak, Black-jack Oak, Post Oak, White Oak, Spanish Oak, Over-cup Oak, Basket Oak, Spanish Oak, Water Oak, Live Oak, Turkey Oak, Red Oak (burl), Bartrams Oak, Live Oak, White Oak, Water Oak, Red Oak (knot).

SECTION 4. Momeiji (maple), Mouri, Yam-a-na-shi, Kuri-no-Ki (oak), Moku-ye no, Kai-ya, San-Sho, Midzu-Kusa, Tsu-Ba-Ki (Camelia), Sa-nu-da, Shero-Ki, O-o-ba, Sakum (Cherry), Rio-bu, U-ru-shi (Lacquer Tree), Ko-wa-deh, Wei-ma-no-Ki, Hanna-no-Ki, Kona-wa-na-shi, Hoh, O-Bara, Shiro-qui-ro, Hinoki, Tsu-su-mi, Tsu-ta (Mulberry), Tsu-su-ji, Twa-suri, Dzu-sa, Shin-Kashi, Yei-si-Ka-wa-ya-tsun-i, Hirangi, Ku-ru-mi, So-Ki, Yama-Kuwa, Arn-ha-dag (Juniper), Na-na-Ka-ba, Ny-u-mi, Kata-sumi, Gu-rui, Hani-no-Ki (all of Japan). Norway Oak, Norway Birch, Jamaica Dogwood, Jamaica Satin, Honduras Rosewood, Porto Rica Satin, Bog Oak, Satin Wood (San Domingo), Honduras Sapodilla, Brazilian Tulip, Yucca Wood, Ebony Billet, Australian Cedar, Australian Satin Wood, Thaya, Ceylon Ebony, Caguari, Partridge, Cocus, Quassia, Mahogany, Caramoy, Spanish Mahogany, Sandal Wood, Snakewood, Chinese Ebony, Tulip, Cocus.

SECTION 5. Weeping Gum, Black Wood, Blue Gum, Pine, Black Nettle, Red Gum, Honeysuckle, Gray Gum, Pine, She Oak, Purple, Snakewood, Teak, Mahogany, Cornel (all of Australia). African Black Wood, Italian Walnut, Bombay Ebony, Amboyna, Beef, Vignulia, Purple, Ziricotta, Mahogany, Mahoe Beet Veneer, African Bleekwood; Nicaragua, Thuga Wood, Partridge, Spanish Olive, Magall, Olive, Rosewood, Magenta, Lance Morsewood, Fiddle Wood, Mora Wood, Camphor, Teak, Mambrillo, Ebony, Macassar, Zebra Wood, India Box, Curly Thuya, Camphor, Amaranth, Wild Olive, Cocobola, Boxwood, Bahia Rosewood, Italian Olive, Cocus, Pimento, Ivory, Myall, Iron, Carmine, Black Palm, Circassium Walnut, Brazilian Ebony, Bastard Satin, Ebony, Macassar, False Fustic, Snakewood, Sandal Wood, Rosewood, Frank's River, Madagascar Redwood, Amboyna Green Heart.

SECTION 6. Ahusati Blanco, Cyamett (fine), Jeculhuistle, Cuaunextle, Palo de Mora, Encino (Oak), Acupa, Gresno, Huaje Zancon, Tepoaxi, Palo Quiebra Hacha, Sepemerguit, Cedar, Sepehuase Prieto (all of Mexico). Algeroba, Chaco (Argentine Republic), Moraodlanco, Palm (roofing), Spotted Wood, Quiqui, Cocoa, Royal Palm, Green Ebony (Bahama). Taba, Tique (Honduras). Anoca, Spotted Wood, Jamaica Box Wood, Cocanut Palm (Bahama). Guamaca, Baria, Jiqui, Majaqua, St. Domingo Satin Wood, Yacaro, W. I. Ayna Blanca, W. I. Cagnairan, W. I. Yellow Wood, W. I. Viburnum, W. I. Guava, W. I. Birch Cypress, Umbrella Tree, Soldier Wood, Black Haw, Black Birch, Caper, Mahogany, Joe Wood, Bay Wood, Pull and

Haul Buck, Mahogany, Lignum Vitæ, Palmetto, White Cedar (California). Sequoia (California). Spruce (California). Fir, Spruce, Cedar, Angel Wood (California). White Cedar (California). Redwood, Yellow Pine, Sequoia.

SECTION 7. Willow, Black Willow, Service Tree, Planer Tree, Satin Leaf, Hackberry, Florida Yew, Black Willow, Saffron Plum, Buck, Squaw Cherry, Wild Mulberry, Wild Privet, Poplar, Pignut Hickory, Red Bay, Big Laurel, Yellow Birch, Black Gum, Wild Sappadilla, Wild Tamarind, Hop Hornbeam, Wild Fig, White Elm, Red Elm, Osage Orange.

SECTION 8. Persimmon, Red Stopper, Pursh, Sweet Gum, Calabash, Hop Tree, Cocoa Plum, Ohio Buckeye, Ink Wood, Tallow Tree, Sea Grape, Smoke Tree Root, Thomas Elm, Long Cod, Sassafras, Laurel Root, Swamp Gum, Marlberry, White Bay, Slippery Elm, Plum Beach, Sugar Leaf, Silver Maple, Hornbeam, White Buttonwood, Box Elder, Paradise Tree, Titi.

SECTION 9. Pitch Pine, Spruce Pine, Loblolly Pine, Long-Leaved Yellow Pine, Scrub Pine, Pitch Pine, Big Spruce Pine, Short-Leaved Yellow Pine, Pond Pine (Florida). Carolina Hemlock, Sugar Maple, Red Maple, Cucumber Tree, Cucumber Root, Yellow Fir, Black Spruce, White Spruce, Pencil Cedar, Red Cedar (5 samples), White Cedar, Stinking Cedar, Cigar-Box Cedar.

SECTION 10. Brazil: Partridge, Centrolobum Robustum, Rosewood, Degmys Winteri, Nectandra Molles, Margi, Brazilwood, Catamarea Oreomolle. Myrocorpus, Carawa Vermello, Anjelin Lonapata, Palm. Africa: Yew Burl, Rosewood, Zibra, Snake Tree, Ebony Trincomele. Mastic Acacia. Australia: Tulips, Yew Tree, English Cherry, Bon-lean Blanc, Pin Farices Olympi, English Sycamore, English Hornbeam, English Ash, Lime, Larch, Buckthorn, Spruce, Willow, Birch, Elm, Alder Oak, Scotch Fir.

SECTION 11. Cam Wood, Washaban, Barwood, Nicaragua Dye, Yellow Wood (California). Turtle Back, Flowering Dogwood, Live Oak, Capavia Tree (Cuba). Greenheart, Birch, White Ash, Assagi, Pond Pine, Indas, Thistle (Mexico). Elm, Mastic Plum (Florida). Scrub Jersey Pine, Paddle Wood, W. I. Royal Palm, Willow, Oak, Maderia Wood (Florida). Curly Poplar, Madrona (California). Zigsiphus Lotus, Majuana, Sandal Wood, Stringy Bark, Kabruteria Paniculatur, Cam Wood, Sapan, Bar Wood, Cam Wood, Logwood, Nicaragua Dye, Yellow Wood, Brazelitto.

SECTION 12. Washaban, Amarilla (Brazil). Dark Holly, Walnut, Sycamore, Apple, Alder, Tripolo, Silver Bill, Sugar Maple, Birch, Variegated Poplar, Gray Birch, Witch Hazel, Willow Oak, Live Oak,

Red Ash, Black Maple, White Pine Root, Buttonwood (Florida). White Spruce, Poplar, Wild Mulberry, White Oak, Hackberry, Iron Wood, Western Catalpa, Red Fir (California). Weeping Oak, Stag-horn, Sumac, Osage Orange, California Fir.

There are also in the collection seventy-six samples of turned wood, showing grain and polish, etc.

**Ninety-five Varieties of Wood, Native in Centre County Collected by Mr. Samuel Brugger.**

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|--|--|
| 1. <i>Acer rubrum</i> —Red Maple,                      | 20. <i>Prunus Serotina</i> —Wild Black Cherry.             |
| 2. <i>Hamamelis Virginica</i> —Witch Hazel.            | 21. <i>Salix Nigra</i> —Black Willow.                      |
| 3. <i>Ulmus racemosa</i> — C o r k y White Elm.        | 22. <i>Ostrya Virginica</i> —Ironwood.                     |
| 4. <i>Magnolia Acuminata</i> — C u - c u m b e r Tree. | 23. <i>Prunus Pennsylvanica</i> —Wild Red Cherry.          |
| 5. <i>Salix Alba</i> —White Willow.                    | 24. <i>Juglans Nigra</i> —Black Walnut.                    |
| 6. <i>Rhododendron maximum</i> — Great Laurel,         | 25. <i>Pyrus Coronaria</i> — S w e e t Scented Crab-Apple. |
| 7. <i>Tillia Americana</i> — Linden Basswood.          | 26. <i>Juglans Cincra</i> —Butternut.                      |
| 8. <i>Acer Saccharinum</i> — S u g a r Maple.          | 27. <i>Rhus Copallina</i> — D w a r f Sumach.              |
| 9. <i>Pyrus Americana</i> —American Mountain Ash,      | 28. <i>Populas Hctrophylla</i> —Downy Poplar.              |
| 10. <i>Sambucus Canadensis</i> —Black Berried Elder.   | 29. <i>Rhus Glabra</i> — S m o o t h S u - m a c h .       |
| 11. <i>Carpinus Amrcicanaa</i> —Ameri- can Hornbeam.   | 30. <i>Castanea Sativa var. Ameri- cana</i> —Chestnut.     |
| 12. <i>Ulmus Americana</i> —White Elm.                 | 31. <i>Prunus Virginiana</i> —Choke Cherry.                |
| 13. <i>Abies Canadensis</i> — Hemlock Spruce.          | 32. <i>Fagus Ferruginia</i> — Ameri- can Beech.            |
| 14. <i>Cratægus Coccinea</i> — Scarlet Fruited Thorn.  | 33. <i>Pinus Inops</i> —Jersey Pine.                       |
| 15. <i>Ulmus Fulva</i> —Slippery Elm.                  | 34. <i>Quercus Tinctoria</i> — Black Oak.                  |
| 16. <i>Quercus Palustris</i> —Pin Oak.                 | 35. <i>Spiraea Opulifolia</i> — N i n e Bark.              |
| 17. <i>Rhus Typhina</i> — Staghorn Sumach.             | 36. <i>Salix Babylonica</i> — Weeping Willow.              |
| 18. <i>Quercus Rubra</i> —Red Oak.                     | 37. <i>Carya (Glabra) Porcina</i> — Pignut Hickory.        |
| 19. <i>Quercus Illicifolia</i> — B l a c k Scrub Oak.  | 38. <i>Populus Tremuloides</i> —Amer- ican Aspen.          |

39. *Cornus Sericea*—Silky Cornel.
40. *Liriodendron Tulipifera*—Tulip Tree—American Poplar.
41. *Salix Discolor*—Glaucus Willow.
42. *Azalia Mistiflora*—False Honeysuckle.
43. *Alnus Incaria*—Speckled Alder.
44. *Quercus Alba*—White Oak.
45. *Amalanchia Canade*—Service Berry.
46. *Prinus Verticilatus*—Black Alder.
47. *Platanus Occidentalis*—Buttonwood Sycamore.
48. *Cephalanthus Occidentalis*—Button Bush.
49. *Dirca Palustris*—Leatherwood.
50. *Celtis Occidentalis*—Hackberry.
51. *Negundium Americanum* (?).—Box Elder.
52. *Robinia Pseudacacia*—Common Locust.
53. *Cratægus Punctato*—Dotted Thorn.
54. *Quercus Coccinea*—Scarlet Oak.
55. *Nyssa Multiflora*—Black or Sour Gum.
56. *Quercus Castanea*—Yellow Chestnut Oak.
57. *Populus Balsamifera*—Bal-
58. *Kalmia Latifolia*—Mountain Laurel.
59. *Carya Amara*—Bitternut.
60. *Cornus Alternifolia*—Alternate Laurel Cornel.
61. *Sassafras Officinale*—Sassafras.
62. *Juniperus Virginica*—Red Cedar.
63. *Betula Populifolia*—White Berch.
64. *Cornus Stolonifera*—Red Osier Cornel.
65. *Betula Lenta*—Sweet Black Birch.
66. *Fraxinus Sambucifolia*—Black Ash.
67. *Carya Microcarpa*—Small Fruited Hickory.
68. *Ilex Montana*—Mountain Holly.
69. *Carya Alba*—Shellbark Hickory.
70. *Staphylia Trifolia*—Bladder Nut.
71. *Viburnum Lantanoides*—Globber-bush.
72. *Benzoin Oderiferum*—Shiabush.
73. *Cornus Circinata*—Round-leaved Cornel.
74. *Pyrus Arlatifolia*—Chokeberry.
75. *Cornus Paniculata*—Panicled Cornel.
76. *Corylus Americana*—Wild Hazlenut.
77. *Taxus Canadensis*—American Yew.
78. *Liburnum Prunifolium*—Black Haw.
79. *Fraxinus Americana*—White Ash.
80. *Sambucus Pubens*—Red-berried Elder.
81. *Fraxinus Pubescens*—Red Ash.
82. *Acer Spicatum*—Mountain Maple.
83. *Acer Pennsylvanicum*—Striped Maple.



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| <p>84. <i>Alnus Serrulata</i> — Smooth Alder.</p> <p>85. <i>Pinus Rigida</i> — Pitch Pine.</p> <p>86. <i>Azalia Arborescens</i> — Smooth Azalia.</p> <p>87. <i>Cornus Florida</i> — Flaming Dogwood.</p> <p>88. <i>Populus Grandidentata</i> — Large-toothed Aspen.</p> <p>89. <i>Crataegus Tomentosa</i> — Black or Pear Thorn.</p> | <p>90. <i>Pinus Strobus</i> — White Pine.</p> <p>91. <i>Crataegus Crusgalli</i> — Cockspur Thorn.</p> <p>92. <i>Prunus Americana</i> — Wild Yellow Plum.</p> <p>93. <i>Aralia Spinos a</i> — Angelica Tree.</p> <p>94. <i>Quercus Montana</i> — Rock Chestnut Oak.</p> <p>95. <i>Xanthoxylum Americanum</i> — Prickley Ash.</p> |
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**A Model of a Saw-mill.**

**Fifty Framed Pictures of Forest Leaves (water-colors, etc.) painted by Miss Grace Anna Lewis, of Media, Pa.**

**Sixty Framed Photographs of Pennsylvania Trees, by Dr. J. T. Rothrock, Secretary of Pennsylvania Forestry Association.**

In the general collection from all the exhibits located in the centre of the building Pennsylvania contributes a Sugar Maple tree (*Acer Saccharinum*).

In the East or Lake Front Colonade there are to be found from the Keystone State :

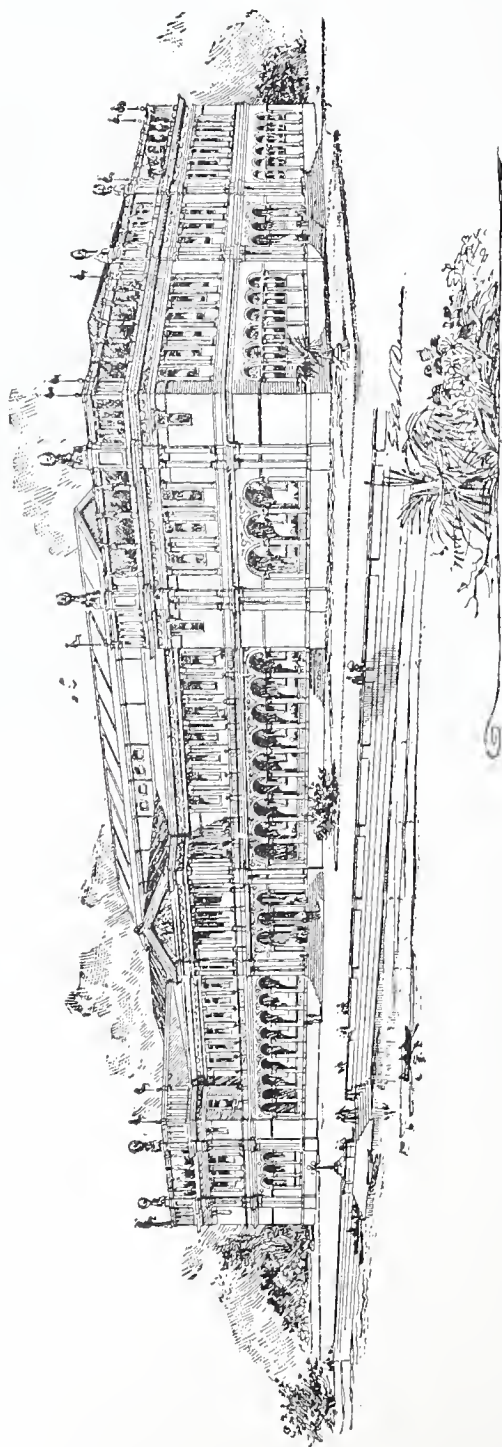
- |  |   |
|--|---|
| <p>1. White Pine—<i>Pinus Strobus</i>.</p> <p>2. Black Cherry — <i>Prunus Sero-</i><br/><i>tina</i>.</p> <p>3. American Linden—<i>Tillia Amer-</i><br/><i>icana</i>.</p> <p>4. Sweet Birch—<i>Betula Lenta</i>.</p> <p>5. Eastern Hemlock — <i>Tsuga</i></p> | <p><i>Canadensis</i>.</p> <p>6. Green Ash—<i>Fraxinus Viridus</i>.</p> <p>7. Chestnut — <i>Castanea Dentata</i>.</p> <p>8. Sugar Maple — <i>Acer Saccha-</i><br/><i>rinum</i>.</p> <p>9. American Beech—<i>Fagus Atro-</i><br/><i>punica</i>.</p> |
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# WOMAN'S BUILDING.





THE WOMAN'S BUILDING.

## WOMAN'S BUILDING.

The Woman's Building is situated immediately opposite the entrance to the Midway Plaisance. To the East is the northern end of the Lagoon; on the South are the Children's Building and Horticultural Hall, and on the North the Public Comfort Building. Pennsylvania has good reason to be proud of the work of its women, and its exhibits figure prominently in this Department. The list below is arranged according to location in the building.

### *North End of Lower Floor.*

#### CHINA DECORATED BY WOMEN.

- Whitney, Minnie P., Pottsville—1 chocolate pot, 3 cups and saucers.  
 Spang, Mrs. Isaac Y., Reading—1 plate, 1 cup and saucer.  
 Kline, Esther, Wilkes-Barre—1 jardiniere.  
 Hawley, Miss, Reading—1 saucer.  
 Phelps, Anna B., Wilkes-Barre—figure on oval porcelain.  
 Lannoy, Mrs. Felix de, Chester—6 plates.  
 Marple, Mary, Bridgeport—1 plaque.  
 Justice, Esther B., Yardley—3 plaques.  
 Musselman, Ida E., Somerset—1 bonbonniere.  
 Williams, Agnes B., New Hope—9 plates.  
 Betts, Elizabeth E., New Hope—1 plate.  
 Hand, Gertrude, Wilkes-Barre—1 jardiniere.  
 Seaforth, Madge, Pittsburgh—3 plates, 1 vase.  
 Taylor, Mary D., Philadelphia—3 vases, 1 jar, 1 fish set, 3 Dresden plates, 2 game plates, 1 Minton plate, 1 cup and saucer, 12 Doulton plates, 5 figure plates, 1 open edged plate, 1 flower design plate, 1 head plate.

#### Needlework Exhibits.

- Lehman, The Misses, Lebanon, Pa.—Lunch cloth, mats and doilies.  
 Boulton, Frances, Philadelphia—Centerpiece.  
 Dewees, Louise F., Pottsville—Centerpiece.  
 Blumer, Lida C., Allentown—Centerpiece,  
 Ball, Bessie, Lock Haven—Doilies.



- English, Mary, Philadelphia—Handkerchief embroidered.  
Howard, Marion, Coudersport—Centerpiece.  
Insane Women, Blockley Hospital, Philadelphia—Seventeen articles embroidered, sent by Miss Elizabeth Clarkson.  
House of Good Shepherd, Reading—Centerpiece and doilies.  
Baer, Mary K., Reading—Centerpieces and doilies.  
Nicolls, Mrs. G. A., Reading—Table cover.  
Slack, Rebecca, Bristol—Doilies.  
Jones, Mrs. Burnette, Tamaqua—Tray cover and doilies.  
Laushe, Mrs. R. A., Lewisburg—Doilies.  
McCreight, Mrs. E. T., Lewisburg—Handkerchief.  
Rogers, Mrs. C. C., Lock Haven—Centerpiece and doilies.  
Smith, Mrs. Fred. G., Wilkes-Barre—Centerpiece and handkerchiefs.  
Sisters of St. Francis, Philadelphia—Church embroideries.  
Donnelly, Mrs. Mary M., Philadelphia—Benediction Veil.  
Donnel, Miss Frances, Sunbury—Stole.  
Altar Guild, Church of Crucifixion, Philadelphia—Bookmarkers.  
Altar Guild, Memorial Church of Advocate, Philadelphia—Stoles.  
Bateman, Caroline, Philadelphia—Centerpiece, photo frame, card case.  
Dunton, Mrs. Jacob, Germantown, Philadelphia—Two centerpieces and 1 baby's blanket.  
Sabine, Mrs. Alex. F., Philadelphia—Centerpiece.  
Pennock, K. H., Coatesville—Centerpiece,  
Neilson, Mrs. Thomas, Philadelphia—Doilies.  
Neilson, Emma F., Philadelphia—Centerpiece.  
Neilson, Mary, Philadelphia—Centerpiece.  
Sharpless, Francis W., Philadelphia—Table cover and doilies.  
Mullison, Mary B., Bainbridge—Two squares drawn work.  
Siggins, Mrs. James B., Tionesta, Pa.—Tea cloth.  
Schock, Eva, Selinsgrove—Centerpiece, doilies.  
Schock, Lulu, Selinsgrove—Lace.  
Lodge, Anna H. M., Media—Centerpiece.  
McKuen, Sara, Philadelphia—Doilies.  
Schalk, Mrs. A. W., Pottsville—Centerpiece.  
Hoyt, Katharine, Philadelphia—Centerpiece.  
Peterson, Ethel, Philadelphia—Centerpieces.  
Butterfield, Nancy, Emlenton, Venango county, Pa.—Two centerpieces.  
Trunkey, Mrs. John, Franklin, Venango county, Pa.—Two small curtains.  
Sill, Mrs. George W., Warren, Pa.—Tea cloth, centerpiece and lace.

Lesser, Lizzie M., Warren, Pa.—Lace.  
Benedictine Sisters, Clarion, Pa.—Lace  
Fluke, Blida, Kittanning, Armstrong county, Pa.—Centerpieces  
and mats.  
Lowther, Mrs. Robert, Lewisburg, Union county—Doilies.  
Gosser, Carrie M., Emlenton—Mat.  
Philadelphia School of Art Needlework—Miscellaneous collection  
of embroideries.

### Miscellaneous Exhibits.

Soliliac, Mrs. Louis—Plush lap robe.  
Kracht, Miss Martha, Scranton—Painted satin table cover.  
Otter, Marion—Pin cushion made from Mrs. Benjamin West's  
wedding dress.  
Shaefer, Kate, Mahanoy City—Sample engraving on copper.  
Anstoch, Mrs. David, Mahanoy City—Jewelry made of pyrites.  
Reed, Mrs. Elmer, Mahanoy City—Inkstand made of coal.  
Halliwell, Mrs. Henry T.—Leather photograph case.  
Angered, Constance Y.—Wood carvings.  
Abel, Elizabeth J., Philadelphia—Transoms of stained glass over  
north door.

### Invention Room.

Book containing patents by Pennsylvania women.

### Process Room.

Abel, Elizabeth, J., Philadelphia—Transom of rope work and de-  
sign for same.  
Wooley, Carrie J., Lime Ridge—Five wall paper and carpet de-  
signs, and ingrain carpet.  
Walker, Mrs. Frank M., New Brighton—Art tiles.  
Greene county—Wool exhibit.

### Assembly Room.

[*The Property of the State of Pennsylvania.*]

Table from Dauphin County Committee, made from historic  
woods.  
Group of three leaded glass windows, with coat of arms of Penn-  
sylvania.

Stained glass window made by Anne Dorris, Huntingdon.  
Sherrard, Miss M., Washington—Carved frame containing photo-  
graphs.  
Carter, Alice, Chatham—Five crayon portraits.

**Record Rooms.**

Alexander, Anne, Franklin—Carved panel.

Fourteen carved and polished panels sent from various counties,  
built in woodwork of rooms.

**Library.**

Four hundred books contributed by Pennsylvania authors.

**Exhibit Room, South-west Gallery.**

Table of inlaid native woods from Mercer County Committee.

Cooper, Mrs. C. E., Oil City—Inlaid work table of native woods.

Halliwell, Dora, Philadelphia—Two carved panels, one table top.

**Educational Room.**

Screen containing photographs of hospitals and charitable institutions of Western Pennsylvania, sent by Miss Mary E. McCandless, Pittsburgh.

Photographs of buildings in Wilkes-Barre, sent by Mrs. Joseph Hillman.

Exhibit on screens of photographs and statistics of hospitals conducted entirely by women, and managed by women physicians—Photographs of women in journalism and women in medicine—also, photographs showing researches of women in archæology, etc. Sent by Sarah C. F. Hallowell, Philadelphia.

Nichols, Minerva P., Philadelphia—Four architectural drawings.

Waugh, Ida, Philadelphia—Three designs for children's books.

**Students in Philadelphia School of design for Women, (Principal Miss Emily Sartain.)**

Humphrey, Mary M., Philadelphia—Design for sofa cushion.

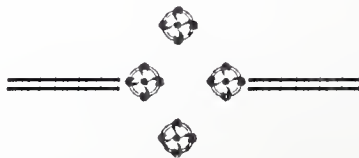
Stewart, Culver, and Doud, Misses, Philadelphia—Design for oil cloth.

Terry, Minnie C., Philadelphia—Design for China silk.

Jamison, Lydia A., Philadelphia—Design for initial letters.

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Lippincott, Margarette, Philadelphia—Design for China silk.



## PENNSYLVANIA OIL PAINTINGS.

- Cassatt, Mary, Paris, France.  
Modern Woman—Decorative  
Panel in South Tympanum.
- Beaux, Cecilia, 1710 Chestnut St.,  
Philadelphia.  
465. *Twilight Confidences*, Gal.  
of Honor, S. W.
- France, Eurilda Q. Loomis, Pitts-  
burgh.  
493. *Preoccupation*. Gal. of  
Honor, S. W.
- Von Rabenau, Otilie Lesshaft,  
Harrisburg.  
519. *Suabian Peasant*, Board  
Room.

- Lownes, Anna, 170 Chestnut St.,  
Philadelphia.  
520. *Still-Life Study*, Board  
Room.
- Natt, Phoebe D., 1334 Chestnut  
St., Philadelphia.  
531. *Katherine*, Board Room.
- Uhler, Estella C., Lebanon.  
554. *The Gleaners*, Board  
Room.
- Waugh, Ida, 1416 Chestnut St.,  
Philadelphia.  
560b. *Pierrot*, Gal. of Honor,  
S. W.

## PENNSYLVANIA WATER COLORS, PASTELS, ETCHINGS, Etc.

- Cassatt, Mary, Paris France.  
652 a. *The Young Mother*—  
(Pastel) Gal. of Hon-  
or, S. W.
74. *Mother and Child*—  
(Etching) W. Gal.,  
Sec. C.
75. *Woman and Parrot*—  
(Etching) W. Gal.,  
Sec. C.
- Canby Louise, Philadelphia.  
70. *Sunset*— (Etchings) W.  
Gal., Sec. C.
71. *In the Harbor*—(Etching)  
W. Gal., Sec. A.
- Clements, Gabrielle D., 2120 Vine  
Street, Philadelphia.  
76. *Chartres*— (Etching) W.  
Gal., Sec. C.
77. *The Way of St. Francis*—  
(Etching) W. Gal.,  
Sec. C.
6416. *Granite Quarry*—(Etch-  
ing) E. Gal., Sec. K.

- Dillaye, Blanche, 1420 S. Penn  
Square, Philadelphia.  
79. *Dordrecht*—W. Gal., Sec.  
C.
80. *Sardine Wharf* — W.  
Gal., Sec. A.
- 641c. *Lights of Venice*—E.  
Gal., Sec. K.
- Bird's-Eye-View of An-  
nisquam*—E. Gal.,  
Sec. K.
- Beyond The Meadow*—  
(Etching) E. Gal.,  
Sec. K.
- The Hill Path*—(Etch-  
ing) E. Gal.,  
Sec. K.
- Dutch Water Way*—  
(Etching) E. Gal.  
Sec. K.
- Fishing Weirs*—(Etch-  
ing) E. Gal., Sec. K.  
ing) Sec. K.



- Dordrecht Canal*—  
(Etching), E. Gal.,  
Sec. K.
- Mist off the Cornish  
Coast*—(Etching) E.  
Gal., Sec. K.
- Dock, Laura D.,** Harrisburg.  
574 *d*, *Old Wharf in N,  
England*—(Water  
Color) E. Gal., Sec. L.
- Earle, Francis N.**  
641 *d*, *Nine Specimen Wood-  
Engravings*—E. Gal.  
Sec. K.
- Este, Florence,** 4111 Baltimore  
Ave., Philadelphia.  
641 *e*. *The Centenarian*—  
(Etching) E. Gal.,  
Sec. K.
- Farrell, Katherine Levin,** Phila-  
delphia.  
81. *Gloucester Wharf*—(Etch-  
ing) W. Gal., Sec. C.  
82. *Wedded*—(Etching) W.  
Gal., Sec. C.
- Getchell, Edith Loring Peirce,** Phil-  
adelphia.  
84. *Moonrise*—(Etching) W.  
Gal. Sec. A.  
86. *On the Beach*—(Etching)  
W. Gal., Sec. C.  
641 *f*, *Morning, Noon, Night*  
—(Etching) E. (Gal.,  
Sec. K.  
643 *c*. *Hillside Farm*—(Etch-  
ing) E. Gal., Sec. K.  
*Desolation*, E. Gal., Sec.  
K.  
*The Marshy Edge*, E.  
Gal., Sec. K.  
*A Bit of Sunshine*, E.  
Gal., Sec. K.  
*Solitude*, E. Gal., Sec. K.
- Graeff, Elsie S.**  
*Water Color-Poppies*, N.  
W. Room Gallery.
- Leiper, Eliza S.,** Chester.  
588. *Site of First Railway in  
America* (Water  
Color).
- Lippincott, Margarette,** 1334 Chest-  
nut St., Philadelphia.  
633*a*. *Book Illustrations* (Pen  
Drawings), E. Gal.,  
Sec. I.  
*Newspaper Illustrations*,  
(Pen Drawings), Edu-  
cation Room.
- Lloyd, Hal, H.,** 4445 Morris St.,  
Germantown.  
89. *The River Meadow* (Etch-  
ing), W. Gal., Sec.  
C.  
90. *On the River* (Etching),  
W. Gal., Sec. C.  
109. *In Nantucket Island* (Etch-  
ing), W. Gal. Sec. C.  
643*a*. *Their Faithful Guard-  
ians* (Etching), E.  
Gal., Sec. K.  
*Noontime Retreat* (Etch-  
ing), E. Gal., Sec.  
K.
- Matlack, Eleanor,** Philadelphia.  
91. *Winter Woods* (Etching),  
W. Gal., Sec. A.  
92. *New England Orchard*  
(Etching), W. Gal.,  
Sec. A.  
643*b*. *By the Pond* (Etching),  
E. Gal., Sec. K.  
*On the River* (Etching),  
E. Gal., Sec. K.
- Merritt, Anna Lea,** London, Eng-  
land.  
95. *Ophelia* (Etching), W.  
Gal., Sec. C.

**Moran, Emily**, 1322 Jefferson St., Philadelphia.

97. *The Road to the Farm* (Etching), W. Gal., Sec. C.

664. *Pen and Ink Sketches. Two Frames of Illustrations.*

**Nichols, Minerva Parker**, Architect, 1616 Mount Vernon St., Philadelphia. Photographs of four buildings, designed and erected by Mr. Nichols.

a. *New Century Club House*, Philadelphia, E. Gal., Sec. K.

b. *Womans Club House*, Wilmington, Del. E. Gal. Sec. K.

c. *Semi-Detached Residences*, Germantown. E. Gal., Sec. K.

d. *Residence, Upsal*, E. Gal., Sec. K.

*Four Architectual Drawings. Educational Room.*

**Plough, Mary K.**, Chambersburg.

593n. *Butterflies* (Water Color), E. Gal., Sec. L.

**Rumpp, Mary K.**, Philadelphia.

644a, *Specimen Wood-Engravings*, E. Gal., Sec. K.

**Sartain, Emily**, 1346 North Broad St., Philadelphia.

*Portraits* (Mezzotint Engravings), E. Gal., Sec. J.

*Welcome News* (Etching), E. Gal., Sec. K.

**Stephens, Alice Barber**, 1334 Chestnut St., Philadelphia, W. Gal. Sec. F.

278. *Michael Angelo Painting the Sistine Chapel*, W. Gal. Sec. F.

279. *Michael Angelo examining a Drawing*, W. Gal. Sec. F.

**Taylor, Margaret M.**, Philadelphia.

110. *Winter* (Etching) W. Gal. Sec. A.

646a *Lobster Cove* (Etching), E. Gal. Sec. K.

*At the Harbor Mouth* (Etching), E. Gal. Sec. K.

**Walmsley, Mabel**, Philadelphia.

639. *Heraldie* Painting on Vellum, E. Gal.

**Waugh, Ida**, 1416 Chestnut St., Philadelphia.

*The Connoisseurs Illustration*, E. Gal. Sec. I.

*Illustrations of Children's Books*, Educational Room.

**Archambault, Anna M.**, Philadelphia.

605. *Madonna after Bouguereau*, (Tapestry Painting), N. Gal.

### PENNSYLVANIA SCULPTURE.

Nevin, Blanche, Lancaster.

451 a. *Maud Muller* —(Marble) Gal. of Honor C.

Slater, Mary E., Philadelphia.

454. *Panel in Plaster of Paris* —E. Gal., Sec. K.

Wadsworth, Fannie L., Philadelphia.

457. *David the Shepherd*—  
(Bronze Statue) Gal.  
of Honor, S. W.

### PENNSYLVANIA STAINED GLASS.

#### Woman's Building.

Abel, Elizabeth J., Philadelphia.

134c. *Two Stained Glass Transoms*. Over N. entrance.

Dorris, Anne, Huntingdon.

134c. *Stained Glass Window*. Assembly Room.

Young, Bessie, Pittsburgh School of Design. *Stained Glass* N. W. Room, Gal.

134f. *Three Leaded Windows with Pennsylvania Coat of Arms*. Assembly Room.

### MISCELLANEOUS STATE EXHIBITS.

#### 1. In the Children's Building.

This is a comfortable home for children, located immediately south of the Woman's Building and north of the Horticultural Hall.

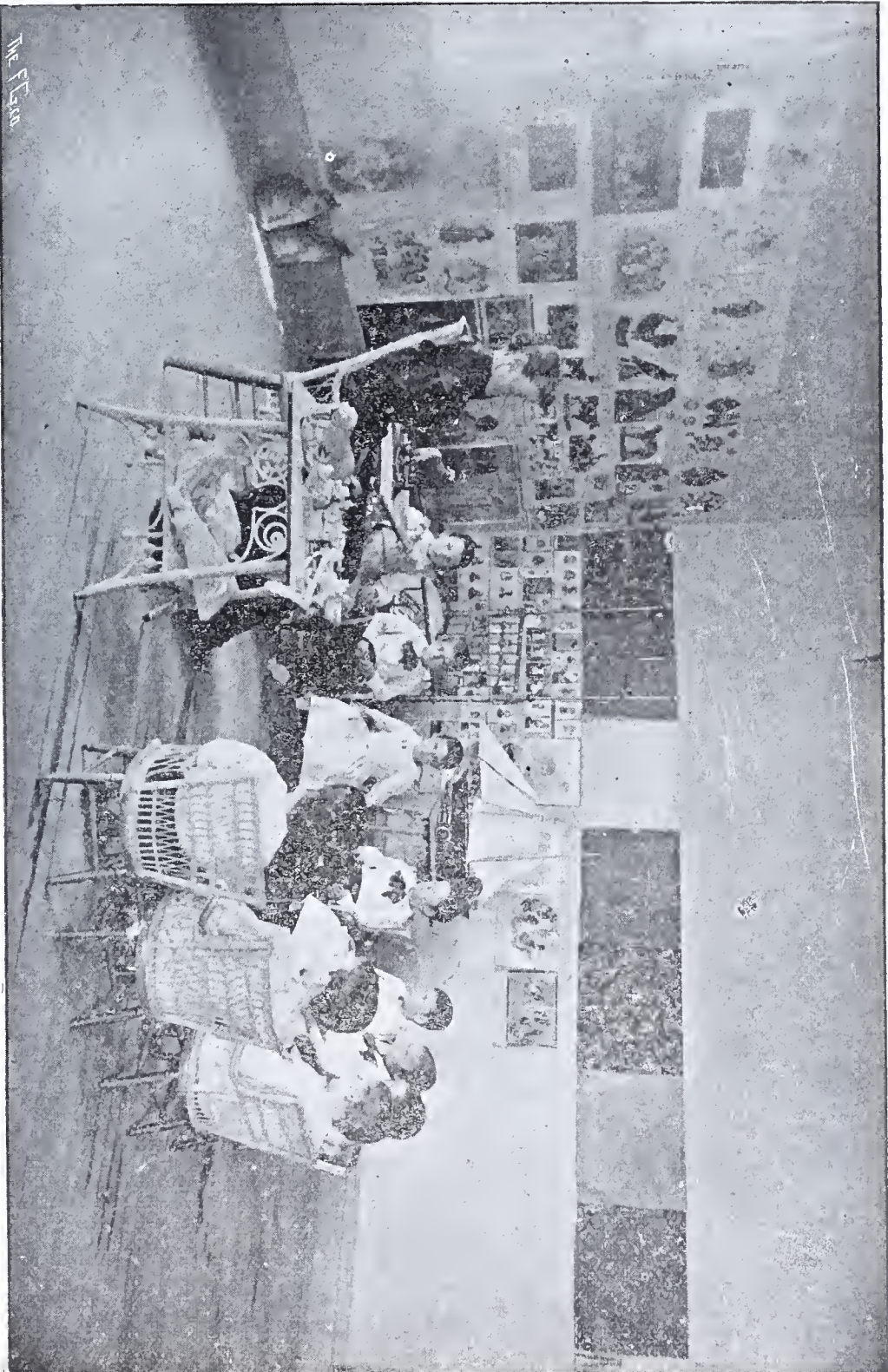
Pennsylvania figures prominently here, the State having in actual operation its "Home for the Training in Speech of Deaf Children before they are of School Age." Below is a brief description of the School written by its Principal, Miss Emma Garrett, just before her death in July of this year—caused by overwork, anxiety, and the constant strain of fifteen years of unremitted attention to the conduct and well being of the School.

"The work of the Home for the Training in Speech of Deaf Children before they are of School Age, like the learning to talk of hearing children, goes on through the summer just as in winter. It was therefore, a comparatively easy matter to transfer the Training Nursery work from the Home in Belmont Avenue, Philadelphia, to the Children's Building at the World's Fair for the summer. It was also fitting that it should appear as a Pennsylvania exhibit, since Pennsylvania was the first government in the world to aid deaf children to learn to talk at the natural age, although many of her governments are now helping them to learn to talk in "Oral Schools for the Deaf." Pennsylvania, however, has recognized that deaf children would lose as much as hearing ones if they were not taught to talk until they began to go to school.

The teaching goes on in the Children's Building just as at the Home. The children have their backs to the audience and do not hear them so they are not embarrassed by them, although the classes have been visited by people from all parts of the world. Among these are many educators and parents of deaf children who have been greatly helped by seeing the actual work.

There are two classes of ten each; one is composed of children who have been under training since the opening of the Home here in February, 1892, and the other of the little ones who have just entered, and those who have been there from a few months to a year."





The Class.

Home for Training in Speech of Deaf Children—Children's Building.







Home for Training in Speech of Deaf Children, Children's Building.



## 2. In the Midway Plaisance.

Pennsylvania exhibits here the PHILADELPHIA WORKING MAN'S HOME. The exhibit is located on the north side of the Plaisance immediately adjacent to the place at which it joins Jackson Park proper ; the credit of this admirable exhibit is largely due to the indefatigable exertions of Miss Ellen Duane Davis.

The exhibit consists of a two-story and basement brick house and is one of 150,000 precisely similar homes in the city of Philadelphia, Pennsylvania.

In 1890, Philadelphia with only two-thirds as many people, had twice as many houses as New York ; with just as many people as Chicago it had half as many more houses.

In Philadelphia seven families out of eight lived in separate houses. In New York the proportion was only one family in six, and in Chicago less than one-half the families live in separate houses.

## 3. In the Woman's Building.

On the ground floor in the Process room is situated the PENNSYLVANIA STAINED GLASS exhibit, conducted by Miss Elizabeth J. Abel, No. 1717 Chestnut street, Philadelphia, Pennsylvania. The exhibit shows the process of making windows and leaded glass in general ; designing ; making the working drawings ; cutting patterns ; cutting glass ; leading ; soldering and cementing the finished glass, etc.

## 4. In the Anthropological Building.

MODEL OF CONTINENTAL CONGRESS BUILDING, YORK, PENNA.

The building was occupied by the Continental Congress as the seat of the General Government from September 30, 1777, to June 27, 1778.

## 5. In the Anthropological Building.

STATE BOARD OF HEALTH, Philadelphia and Harrisburg.

Portable outfit for water analysis (Bacteriological, etc.). Location, South-east corner, ground floor, W-6.

## 6. In the Liberal Arts Building.

LORIN BLODGETT'S INDUSTRIAL CHARTS.

(a). Chart giving statistics in regard to *Agriculture* in Pennsylvania.

(b). Chart giving statistics in regard to *Railroads and Commerce* in Pennsylvania.

(c). Chart giving statistics in regard to the *Manufactures* of Pennsylvania.

(d). Chart giving statistics in regard to the *Mineral Products* of Pennsylvania.

Location, North-east corner Gallery.

NOTE.—These charts are replete with useful information.



### 7. In the Agricultural Building.

THE WOMAN'S SILK CULTURE ASSOCIATION of Philadelphia.  
Incorporated 1880. (C—A—I.)

(a). Silk reel.

(b). Silk loom.

(c). Case containing Pierced Cocoons, Thorn Silk, Macerated Silk, Natural Cocoons, Raw Silk, Two Silk Flags, etc.

The whole process of silk manufacture is illustrated, and silk products are made and sold at the exhibit. Nothing but American results are shown. For information address Anna M. Horn, Corresponding Secretary, 1818 Green street, Philadelphia. The excellence of this exhibit is due to the untiring devotion of the late Mrs. Harriet A. Lucas, in its preparation.

### 8. In the Anthropological Building.

A collection of birds and mammals, collected and mounted by Dr. B. H. Warren, State Ornithologist, West Chester, and of bird's eggs, collected and arranged by J. Warren Jacobs, Waynesboro', Pa. Probably no similar exhibit on the grounds elicits so much attention and commendation as this. It is located centrally in the eastern gallery of the Anthropological Building. The scientific character and educational value of this collection is greatly enhanced by the attractive and realistic manner in which it is mounted. A miniature mountain and valley, with rocks, trees and caves, and a stream of running water, afford opportunities for mounting each specimen in some characteristic attitude or act, and the visitor feels that he is observing nature in reality. To the State Ornithologist, B. H. Warren, assisted by Geo. P. Fraut, of Scranton, this exhibit is to be credited, and visitors are hospitably entertained by Captain John R. Orwig, of Harrisburg.

### PENNSYLVANIA BIRDS.

1 Holboell's Grebe	11 Kittiwake
2 Horned Grebe	12 American Herring Gull
3 Pied-billed Grebe	13 Ring-billed Gull
4 Loon	14 Laughing Gull
5 Red-throated Loon	15 Bonaparte's Gull
6 Black-throated loon	16 Gull-billed Tern
7 Black Guillemot	17 Caspian Tern
8 Dovekie	18 Royal Tern
9 English Pheasant	19 Forster's Tern
10 Parasitic Jaeger	20 Common Tern



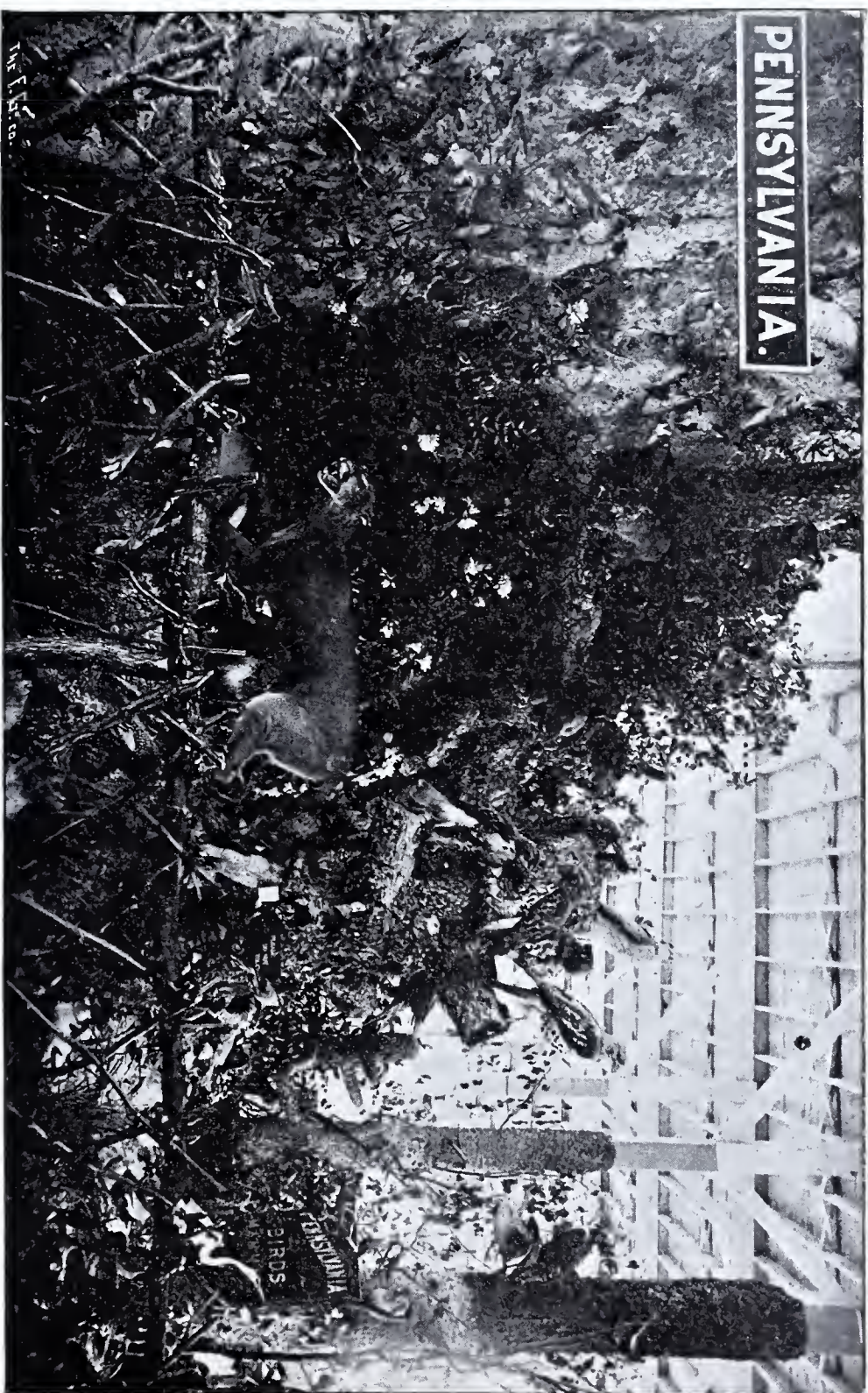




Front View of Portion of Collection of Birds and Mammals—Anthropological Building, (East Gallery).



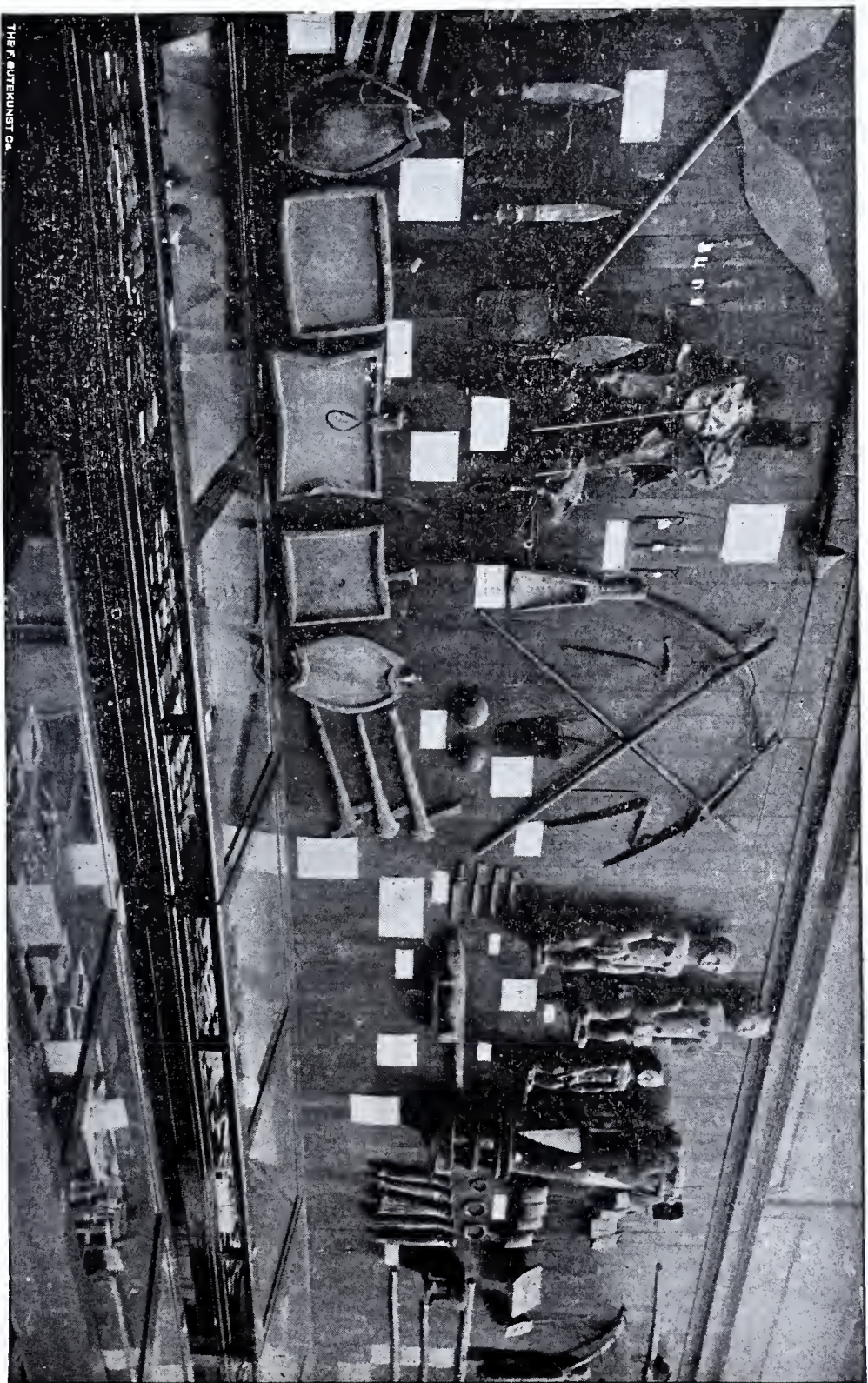
PENNSYLVANIA.



Side View of Collection of Birds and Mammals—Anthropological Building, (East Gallery).







View in Anthropological Building.



- |                           |                               |
|---------------------------|-------------------------------|
| 21 Arctic Tern            | 64 Green Heron                |
| 22 Least Tern             | 65 Black-crowned Night Heron  |
| 23 Sooty Tern             | 66 Yellow-crowned Night Heron |
| 24 Black Tern             | 67 King Rail                  |
| 25 Black Skimmer          | 68 Clapper Rail               |
| 26 Stormy Petrel          | 69 Virginia Rail              |
| 27 Cormorant              | 70 Sora                       |
| 28 American Merganser     | 71 Yellow Rail                |
| 29 Red-breasted Merganser | 72 Purple Gallinule           |
| 30 Hooded Merganser       | 73 Florida Gallinule          |
| 31 Mallard                | 74 American Coot              |
| 32 Black Duck             | 75 Red Phalarope              |
| 33 Gadwall                | 76 Northern Phalarope         |
| 34 Baldpate               | 77 Wilson's Phalarope         |
| 35 Green-winged Teal      | 78 Woodcock                   |
| 36 Blue-winged Teal       | 79 Wilson's Snipe             |
| 37 Shoveller              | 80 Dowitcher                  |
| 38 Pintail                | 81 Knot                       |
| 39 Wood Duck              | 82 Purple Sandpiper           |
| 40 Red-headed Duck        | 83 Pectoral Sandpiper         |
| 41 Canvass-back Duck      | 84 White-rumped Sandpiper     |
| 42 American Scarp Duck    | 85 Baird's Sandpiper          |
| 43 Black-headed Duck      | 86 Least Sandpiper            |
| 44 King Eider Duck        | 87 Red-backed Sandpiper       |
| 45 Ring-necked Duck       | 88 Semipalmated Sandpiper     |
| 46 American Golden-eye    | 89 Sanderling                 |
| 47 Buffle-head Duck       | 90 Greater Yellow-legs        |
| 48 Old Squaw              | 91 Yellow-legs                |
| 49 American Scoter        | 92 Solitary Sandpiper         |
| 50 White-winged Scoter    | 93 Willet                     |
| 51 Ruddy Duck             | 94 Bartramian Sandpiper       |
| 52 Canada Goose           | 95 Spotted Sandpiper          |
| 53 Brant                  | 96 Black-bellied Plover       |
| 54 Swan                   | 97 Golden Plover              |
| 55 White Ibis             | 98 Killdeer                   |
| 56 Wood Ibis              | 99 Semipalmated Plover        |
| 57 American Bittern       | 100 Piping Plover             |
| 58 Least Bittern          | 101 Wilson's Plover           |
| 59 Great Blue Heron       | 102 Turnstone                 |
| 60 American Egret         | 103 Quail                     |
| 61 Snowy Heron            | 104 Ruffed Grouse             |
| 62 Louisiana Heron        | 105 Prairie Hen               |
| 63 Little Blue Heron      | 106 Wild Turkey               |



- |                                   |                               |
|-----------------------------------|-------------------------------|
| 107 Wild Pigeon                   | 148 Wood Pewee                |
| 108 Mourning Dove                 | 149 Olive-sided Flycatcher    |
| 109 Turkey Buzzard                | 150 Yellow-bellied Flycatcher |
| 110 Swallow-tailed Kite           | 151 Acadian Flycatcher        |
| 111 Marsh Hawk                    | 152 Traill's Flycatcher       |
| 112 Sharped-shinned Hawk          | 153 Least Flycatcher          |
| 113 Cooper's Hawk                 | 154 Horned Lark               |
| 114 American Goshawk              | 155 Blue Jay                  |
| 115 Red-tailed Hawk               | 156 Raven                     |
| 116 Red-shouldered Hawk           | 157 Crow                      |
| 117 American Rough-legged<br>Hawk | 158 Fish Crow                 |
| 118 Golden Eagle                  | 159 Bobolink                  |
| 119 Bald Eagle                    | 160 Crowbird                  |
| 120 Duck Hawk                     | 161 Yellow-headed Black Bird  |
| 121 Pigeon Hawk                   | 162 Meadow Lark               |
| 122 Sparrow Hawk                  | 163 Orchard Oriole            |
| 123 Fish Hawk                     | 164 Baltimore Oriole          |
| 124 Barn Owl                      | 165 Rusty Black Bird          |
| 125 Barred Owl                    | 166 Purple Grackle            |
| 126 Saw-whet Owl                  | 167 Bronzed Grackle           |
| 127 Screech Owl                   | 168 Pine Grosbeak             |
| 128 Great Horned Owl              | 169 Purple Finch              |
| 129 Snowy Owl                     | 170 Red Crossbill             |
| 130 Yellow-billed Cuckoo          | 171 White-winged Crossbill    |
| 131 Black-billed Cuckoo           | 172 Redpoll                   |
| 132 Kingfisher                    | 173 Goldfinch                 |
| 133 Hairy Woodpecker              | 174 Pine Siskin               |
| 134 Downy Woodpecker              | 175 Snowflake                 |
| 135 Red-cockaded Woodpecker       | 176 Lapland Longspur          |
| 136 Yellow-bellied Sapsucker      | 177 Vesper Sparrow            |
| 137 Pileated Woodpecker           | 178 Savannah Sparrow          |
| 138 Red-headed Woodpecker         | 179 Grasshopper Sparrow       |
| 139 Red-bellied Woodpecker        | 180 White-crowned Sparrow     |
| 140 Flicker                       | 181 White-throated Sparrow    |
| 141 Whip-poor-will                | 182 Tree Sparrow              |
| 142 Night Hawk                    | 183 Chipping Sparrow          |
| 143 Chimney Swift                 | 184 Field Sparrow             |
| 144 Ruby-throated Humming<br>Bird | 185 Snowbird                  |
| 145 King Bird                     | 186 English Sparrow           |
| 146 Crested Flycatcher            | 187 Song Sparrow              |
| 147 Pewee                         | 188 Lincoln's Sparrow         |
|                                   | 189 Swamp Sparrow             |
|                                   | 190 Fox Sparrow               |

- |                                 |                                  |
|---------------------------------|----------------------------------|
| 191 Towhee                      | 235 Black-throated Green Warbler |
| 192 Cardinal                    | 236 Pine Warbler                 |
| 193 Rose-breasted Grosbeak      | 237 Palm Warbler                 |
| 194 Blue Grosbeak               | 238 Yellow Palm Warbler          |
| 195 Indigo Bunting              | 239 Prairie Warbler              |
| 196 Dickcissel                  | 240 Oven-Bird                    |
| 197 Scarlet Tanager             | 241 Water Thrush                 |
| 198 Summer Tanager              | 242 Louisiana Water Thrush       |
| 199 Purple Martin               | 243 Kentucky Warbler             |
| 200 Cliff Swallow               | 244 Connecticut Warbler          |
| 201 Barn Swallow                | 245 Mourning Warbler             |
| 202 Tree Swallow                | 246 Maryland Yellow Thrush       |
| 203 Bank Swallow.               | 247 Chat                         |
| 204 Rough-winged Swallow        | 248 Hooded Warbler               |
| 205 Bohemian Waxwing            | 249 Canadian Warbler             |
| 206 Cedar Bird                  | 250 Redstart                     |
| 207 Northern Shrike             | 251 Titlark                      |
| 208 Loggerhead Shrike           | 252 Mocking Bird                 |
| 209 Red-eyed Vireo              | 253 Catbird                      |
| 210 White-eyed Vireo            | 254 Brown Thrasher               |
| 211 Warbling Vireo              | 255 Carolina Wren                |
| 212 Yellow-throated Vireo       | 256 Bewick's Wren                |
| 213 Blue-headed Vireo           | 257 House Wren                   |
| 214 Black and White Creeper     | 258 Winter Wren                  |
| 215 Prothonotary Warbler        | 259 Short-billed Marsh Wren      |
| 216 Worm-eating Warbler         | 260 Long-billed Marsh Wren       |
| 217 Blue-winged Warbler         | 261 Brown Creeper                |
| 218 Golden-winged Warbler       | 262 White-breasted Nuthatch      |
| 219 Nashville Warbler           | 263 Red-breasted Nuthatch        |
| 220 Orange-crowned Warbler      | 264 Brown-headed Nuthatch        |
| 221 Tennessee Warbler           | 265 Tufted Titmouse              |
| 222 Parula Warbler              | 266 Chickadee                    |
| 223 Cape May Warbler            | 267 Carolina Chickadee           |
| 224 Yellow Warbler              | 268 Golden-crown Kinglet         |
| 225 Black-throated Blue Warbler | 269 Rubycrown Kinglet            |
| 226 Myrtle Warbler              | 270 Blue Grey Gnatcatcher        |
| 227 Magnolia Warbler            | 271 Wood Thrush                  |
| 228 Cerulean Warbler            | 272 Wilson's Thrush              |
| 229 Chestnut-sided Warbler      | 273 Grey-cheeked Thrush          |
| 230 Bay-breasted Warbler        | 274 Olive-backed Thrush          |
| 231 Blue Bird                   | 275 Hermit Thrush                |
| 232 Black Poll Warbler          | 276 American Robin               |
| 233 Blackburnian Warbler        | 277 Bluebird                     |
| 234 Yellow-throated Warbler     | 278 Short-eared Owl              |
|                                 | 279 Wilson's Warbler             |

## PENNSYLVANIA MAMMALS.

- |                  |                       |
|------------------|-----------------------|
| 1 Black Bear     | 17 Mink               |
| 2 Virginia Deer  | 18 Weasel             |
| 3 Panther        | 19 Fox Squirrel       |
| 4 Wild Cat       | 20 Grey Squirrel      |
| 5 Porcupine      | 21 Black Squirrel     |
| 6 Red Fox        | 22 Red Squirrel       |
| 7 Grey Fox       | 23 Flying Squirrel    |
| 8 Otter          | 24 Ground Squirrel    |
| 9 Raccoon        | 25 Common Mole        |
| 10 Opossum       | 26 Star Nosed Mole    |
| 11 Woodchuck     | 27 Field Mouse        |
| 12 Skunk         | 28 Jumping Mouse      |
| 13 Pine Martin   | 29 White-footed Mouse |
| 14 Fisher        | 30 Shrew              |
| 15. Varying Hare | 31 Red Bat            |
| 16 Rabbit        | 32 Muskrat            |

## PENNSYLVANIA BIRDS' EGGS.

- |  |  |
|--|--|
| 1. <i>Ardetta Exilis</i> —Least Bittern (3 eggs).                      | 13. <i>Rallus Elegans</i> —King Rail (12 eggs).            |
| 2. <i>Ardea Tricolor Ruficollis</i> —Louisiana Heron (3 eggs).         | 14. <i>Fulica Americana</i> —American Coot (11).           |
| 3. <i>Podilymbus Podiceps</i> —Pied-billed Grebe (5 eggs).             | 15. <i>Porzana Carolina</i> —Sora (11).                    |
| 4. <i>Ardea Herodias</i> —Great Blue Heron (5 eggs).                   | 16. <i>Gallinula Galeata</i> —Florida Gallinule (8).       |
| 5. <i>Ardea Coerulea</i> —Little Blue Heron (4 eggs).                  | 17. <i>Bonasa Umbellus</i> —Ruffed Grouse (11).            |
| 6. <i>Ardea Candidissima</i> —Snowy Heron (4 eggs).                    | 18. <i>Colinus Virginianus</i> —Bob White (18).            |
| 7. <i>Nycticorax Violaceus</i> —Yellow-crowned Night Heron (3).        | 19. <i>Tympanuchus Americanus</i> —Prairie Hen (9).        |
| 8. <i>Nycticorax Nycticorax Neavei</i> —Black-crowned Night Heron (4). | 20. <i>Bartramia Longicauda</i> —Bartramian Sandpiper (4). |
| 9. <i>Ardea Virescens</i> —Green Heron (5).                            | 21. <i>Actitis Macularia</i> —Spotted Sandpiper (4).       |
| 10. <i>Ardea Egretta</i> —American Egret (3).                          | 22. <i>Aegialitis Vocifera</i> —Killdeer (3).              |
| 11. <i>Ceryle Alcyon</i> —Belted Kingfisher (7).                       | 23. <i>Philohela Minor</i> —American Woodcock (4).         |
| 12. <i>Rallus Virginianus</i> —Virginia Rail (10).                     | 24. <i>Accipiter Velox</i> —Sharp-shinned Hawk (2).        |

25. *Pandion Haliaeetus Carolinensis* — American Osprey (3 eggs).
26. *Cathartes Aura* — Turkey Vulture (2).
27. *Accipiter Cooperi* — Cooper's Hawk (4).
28. *Buteo Borealis* — Red-tailed Hawk (3 eggs).
29. *Buteo Lineatus* — Red-shouldered Hawk (3).
30. *Strix Pratineola* — American Barn Owl (4).
31. *Megascops Asio* — Screech Owl (6).
32. *Syrnium Nebulosum* — Barred Owl (2).
33. *Asio Wilsonianus* — American Long Eared Owl (2).
34. *Bubo Virginianus* — Great-horned Owl (2).
35. *Colaptes Auratus* — Flicker (9).
36. *Bryobates Villosus* — Hairy Woodpecker (3).
37. *Melanerpes Erythrocephalus* — Red-headed Woodpecker (4).
38. *Melanerpes Carolinus* — Red-bellied Woodpecker (6).
39. *Ceophloeus Pileatus* — Pileated Woodpecker (1).
40. *Sphyrapicus Varius* — Yellow-bellied Sapsucker (4).
41. *Dryobates Pubescens* — Downy Woodpecker (6).
42. *Chaetura Pelagica* — Chimney Swift (4).
43. *Coccyzus Erythrophthalmus* — Black-billed Cookoo (6).
44. *Ectopistes Migratorius* — Passenger Pigeon (2).
45. *Zenaidura Macroura* — Mourning Dove (2 eggs).
46. *Sturnella Magna* — Meadow Lark (5).
47. *Trochilus Colubris* — Ruby-throated Humming Bird (2).
48. *Antrostomus Vociferus* — Whip-poorwill (2).
49. *Chordeiles Virginianus* — Night Hawk (2).
50. *Tyrannus Tyrannus* — King-bird (3).
51. *Contopus Virens* — Wood Pewee (3).
52. *Empidonax Minimus* — Least Flycatcher (4).
53. *Empidonax Acaedius* — Acadian Flycatcher (4).
54. *Sayornis Phoebe* — Phoebe (5).
55. *Myiarchus Crinitus* — Crusted Flycatcher (4).
56. *Alauda Arvensis* — Skylark (5).
57. *Spinus Frisitis* — American Goldfinch (6).
58. *Corvus Americanus* — American Crow (6).
56. *Cyanocitta Cristata* — Blue Jay (5 eggs).
60. *Otocoris Alpestris Praticola* — Prairie-horned Lark (4).
61. *Icterus Galbula* — Baltimore Oriole (5).
62. *Icterus Spurius* — Orchard Oriole (5).
63. *Agelaius Phoeniceus* — Red-winged Blackbird (3).
64. *Dolichonyx Oryzivorus* — Bobolink (6).
65. *Quiscalus Quiscula Aeneus* — Bronzed Grackle (5).



66. *Quiscalus Quiscula*—Purple Grackle (6 eggs).
67. *Spizella Pusilla*—Field Sparrow (4).
68. *Molothrus Ater*—Cowbird (3).
69. *Junco Carolinensis*—Carolina Junco (3).
70. *Spizella Socialis*—Chipping Sparrow (4).
71. *Melospiza Georgiana*—Swamp Sparrow (5).
72. *Chondestes Grammacus*—Lark Sparrow (5).
73. *Poocaetes Gramineus*—Vesper Sparrow (4).
74. *Ammodramus Savannarum Passerinus* — Grasshopper Sparrow (3).
75. *Zonotrichia Albicollis*—White-throated Sparrow (4).
76. *Ammodramus Sandwichensis Aludinus*—Savannah Sparrow (4).
77. *Passer Domesticus*—English Sparrow (6).
78. *Metospiza Fasciata* — Song Sparrow (5).
79. *Pipilo Erythrophthalmus* — Towee (4).
80. *Icteria Vereus* — Yellow-breasted Chat (4).
81. *Cardinalis Cardinalis*—Cardinal (4).
82. *Carpodacus Purpureus*—Purple Finch (5).
83. *Spiza Americana*—Dickcissel (5).
84. *Habia Ludoviciana* — Rose-breasted Grosbeak (4).
85. *Piranga Rubra* — Summer Tanager (3).
86. *Piranga Erythromelas*—Scarlet Tanager (4).
87. *Ampelis Cedrorum* — Cedar Wax-wing (5 eggs).
88. *Progne Subis*—Purple Martin (4).
89. *Passerina Cyanea* — Indigo Bunting (4).
90. *Guiraca Carulea*—Blue Grosbeak (3).
91. *Lanius Ludovicianus Excubitorides* — White-rumped Shrike (6).
92. *Lanius Ludovicianus*—Loggerhead Shrike (6).
93. *Lochycineta Bicolor* — Tree Swallow (6).
94. *Stelgidopteryx Serripennis*—Rough-winged Swallow (5).
95. *Petrochelidon Lunifrons* — Cliff Swallow (4).
96. *Chelidon Erythrogasta*—Barn Swallow (6).
97. *Clivicola Riparia* — Bank Swallow (7 eggs).
98. *Vireo Olivaceus* — Red-eyed Vireo (4).
99. *Vireo Noveboracensis*—White-eyed Vireo (4).
100. *Vireo Gilvus* — Warbling Vireo (4).
101. *Vireo Flavifrons*—Yellow-throated Vireo (3).
102. *Geothlypis Formosa* — Kentucky Warbler (6).
103. *Dendroica Pennsylvanica* — Chestnut-sided Warbler (4).
104. *Protonotari Citrea*—Prothonotary Warbler (6).
105. *Seiurus Motacilla*—Louisiana Water Thrush (5).
106. *Helminthophila Chrysoptera*—Golden Winged Warbler (3).

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|--|--|
| <p>107. <i>Dendroica Caerulescens</i> — Black - throated Blue Warbler (4 eggs).</p> <p>108. <i>Geothlypis Trichas</i> — Maryland Yellow-throat (4).</p> <p>109. <i>Sylvania Mitrata</i> — Hooded Warbler (5).</p> <p>110. <i>Seiurus Aurocapellus</i> — Oven-bird (5).</p> <p>111. <i>Thryothorus Bewickii</i> — Bewick's Wren (7).</p> <p>112. <i>Dendroica Aestiva</i> — Yellow Warbler (5).</p> <p>113. <i>Setophaga Ruticilla</i> — American Redstart (4).</p> <p>114. <i>Polioptila Caerulea</i> — Blue-grey Gnatcatcher (5).</p> <p>115. <i>Cistothorus Palustris</i> — Long-billed Marsh Wren (6).</p> <p>116. <i>Troglodytes Aedon</i> — House Wren (6).</p> | <p>117. <i>Thryothorus Ludovicianus</i> — Carolina Wren (5 eggs).</p> <p>118. <i>Parus Bicolor</i> — Tufted Titmouse (8).</p> <p>119. <i>Sitta Carolinensis</i> — White-breasted Nuthatch (8).</p> <p>120. <i>Parus Atricapillus</i> — Chickadee (7).</p> <p>121. <i>Parus Carolinensis</i> — Carolina Chickadee (5).</p> <p>122. <i>Minus Polyglottus</i> — Mocking-Bird (4).</p> <p>123. <i>Harporynchus Rufus</i> — Brown Thrasher (4).</p> <p>124. <i>Sialia Sialis</i> — Bluebird (6).</p> <p>125. <i>Merula Migratoria</i> — American Robin (5).</p> <p>126. <i>Turdus Fuscescens</i> — Wilson's Thrush (5).</p> <p>127. <i>Galluscoptes Carolinensis</i> — Catbird (4).</p> |
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This collection of Bird's Eggs is one of the finest ever gathered together, and Mr. Jacobs deserves every credit for its completeness and arrangement.

9. In the United States Government Building — (location N. W. portion of Rotunda.) In the Rotunda is a collection of "**Colonial Loan Exhibits**" from various States, amongst which, that of Pennsylvania, takes a foremost place by reason of the variety and interest of the relics contributed to form the exhibit.

The following list will show the great value of the exhibit :

Journal of Benedict Arnold, 1772.

Printed proceedings of Arnold's Court Martial, May 29th, 1779.

Casualty List of Six Companies of Col. Hartley's Regiment, 1777.

Revolutionary Pocket Book Journal and Account Book, 1774-1778.

Pay Roll of Captain Stoddart's Company, Colonel Hartley's Regiment, April 1777.

Parchment memorandum admitting Thermond Ball, to Franchise and Liberty of Dublin, 1760.

Oath to be minstered to every Freeman of the City of Dublin, time of George. II.

Pay Roll Captain McCallisters Company, Colonel Hartley's Regiment, 1777.

Invitation to Philadelphia Assembly, 1785.

- Bill of sale of schooner Nancy. Nathaniel Stewart, Mariner to same. Dalpuget De Bellassir, 1776.
- Written Notice for Volunteers, 1812.
- Three Specimens of Continental Currency, one of \$30.00 May 10th 1775, one of \$45.00 January 14th 1779, and one of Two Shillings and six pence, April 1772.
- Maryland Money, 2-9ths of a dollar, 1774.
- Invitation to Ball at the French Academy, Philadelphia, Pa., 1786.
- Old Almanac and Journal, 1817.
- Slipper over 100 years old, worn by Mrs. Jenkins, at Philadelphia.
- Old Galoche.
- Revolutionary Broad Knife and Sheath, belonging to Jerry Tein, Company K, Western Sharpshooters.
- Shipping Bill from Maderia to Philadelphia, 1774.
- Letter to Thermond Ball in Camp, 1777.
- Pay Roll of the Northumberland Blues, 1814.
- Tortoise and Gold Snuff Box, belonging to Dr. Joseph Priestly.
- Medallion of Benjamin Franklin, 1777.
- Silver Soup Ladle.
- Silver Punch strainer over 100 years old.
- Portrait of Fred A. Muhlenburg, Speaker of the First Congress.
- Portrait of Governor Joseph Heister, Colonel in the Revolutionary Army.
- Flag of the Eighth Virginia Regiment.
- Copy of Portrait of General Muhlenburg.
- Commission of Henry Muhlenburg in Army signed by Washington and Knox.
- Piece of Silk Embroidery worked in 1790.
- Silver Sugar Bowl, Tankard and Salt Cellar, 1774.
- China Tea Pot, Cream Jug, Bowl and two Cups and Saucers, one Cream Pitcher and Saucer Dish, 1774.
- Two old Plated Waiters.
- Silver Spoon.
- Lace Collar, Sampler and Bead Reticule.
- Wedding Gloves and Seventeenth Century Viniagrette.
- Guinea Ladle and Silver Soup Ladle.
- Franklin Spoon.
- Picture of Philip Physick.
- John Penn's Autograph.
- Oath of Allegiance.
- Old Pitcher and two Semi-circular Vases.
- Plates, Cup and Saucer, Tray and Snuffer of Benjamin Franklin.
- Tea Caddy of Benjamin Franklin.

- Badge of LaFayette.  
Needle Book of Hanna Ann Jell's Granddaughter.  
Hemp, 1779.  
Stook's History of Pennsylvania.  
Masonic Emblem and Apron worn by Washington.  
Sword and Five Bayonets, Cannon Screw and Cable Chain.  
Piece of Fence with Bullet Hole.  
Piece of gun.  
Piece of first house, William Penn.  
Piece of the treaty elm.  
Lamp made in Germantown.  
Eagle dug up in Cermantown.  
Three swords and Scotch porridge dish.  
Old copy of New Testament.  
One red slipper.  
Old silk badge.  
Franklin medallion.  
Biddle ladle.  
Latin dictionary.  
Declaration of Independence medallion.  
Wedding shoes.  
And many other articles not definitely classified.  
This collection was made by Mrs. E. D. Gillespie, and the following named persons contributed :  
Mrs. A. A. Van Alen, Mrs. Joseph Priestly, Henry A. Muhlenburg, Mrs. Anne H. Nicholls, Miss Dale, Mrs. Helen Clark, Virginia McSherry, Mrs. Thomas Roberts, M. W. Wise, Eldridge Collection, Forest County, Northumberland County.





PRIVATE EXHIBITS.

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EXHIBITS

—OF—

PENNSYLVANIANS

—AT THE—

WORLD'S COLUMBIAN EXPOSITION.



## DEPARTMENT A.

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### **Agriculture, Food, Food Products, Farming, Machinery and Appliances.**

(See Ante pp. 29-39).

#### **KEY TO INSTALLATION.**

For the purpose of installation of exhibits the building is divided, on the first floor, into five sections, "A" being in the northeast, "B" the northwest, "C" the southeast, "D" the southwest, and "E" in the west section. On the second or gallery floor are "F" in the northeast, "G" in the northwest, "H" in the southeast, and "I" in the southwest section. Beginning at the centre of the building in each section, each column is lettered from "A" down the alphabet, toward the outside of the building. Beginning with the outside, and going toward the centre of the building, the columns are numbered from "1" up. The columns in each section are lettered and numbered separately; that is, for example, in each section column "1-A" can be found. The location of an exhibit is indicated by two letters and a figure. For instance, an exhibit located in "H-G-5," means that it is in section "H" where the lines of the columns "G" and "5" cross. All the agricultural machinery is in Section "D." All exhibits of butter and cheese are in the Dairy Building, the butter on the first floor and the cheese on the second floor. Visitors can take the elevated railroad and land at the Colonnade, and go immediately to the second floor of the Agricultural Building.

#### **EXHIBITORS.**

**Allen & Co., S. L., Philadelphia.**

Drills, Plows and Cultivators. Location, E-N-10.

**American Manufacturing Co., Waynesboro'**

Creamers. H-J-1.

**Barnes Iron Fence Co., Philadelphia.**

Iron and Steel Fences. F-Ex.

**Barnett, William, Philadelphia.**

Wheat Starch. F-H-7.

**Bergner & Engle Brewing Co.,** Philadelphia.

Beer, Ale and Porter. I-M-9.

**Betz & Son, John F.,** Philadelphia.

Beer, Ale and Stout. G.-N-5.

**Bonnafon, Albert L.,** Philadelphia.

Steel Fence. F-Ex.

**Croft & Allen,** Philadelphia.

Confectionery. G-J-9.

**DeLissa Alpha S.,** Philadelphia.

Fancy Drinks and Cocktails. I-G-4.

**Dreydoppel, William,** Philadelphia.

Soap. F-M-6.

**Doan, H. A.,** Philadelphia.

Pulverized Coffee. H-K-9.

**Embree & Son, P.,** West Chester.

Butter-worker. I-D-I & I-C-1.

**Empire State Cigar Machine Co.,** Philadelphia.

Cigar Machines. E-C-2.

**Farquhar Co., Limited, A. B.,** York.

Plows, Harrows and Cultivators, Corn Planter and Grain Drill,  
Rake Separator, Thresher and Vibrator, Corn Sheller and Port-  
able Engine. E-E-3.

**Geiser Manufacturing Co.,** Waynesboro'.

Thresher, Separator and Cleaner, Traction Engine. E-C-10.

**Guckenheimer & Bros., A.,** Pittsburgh.

Rye Whiskey. I-L-5.

**Hannis Distilling Co.,** Philadelphia.

Rye Whiskey. I-J-5.

**Heebner & Sons,** Lansdale.

Threshers and Cleaners, Feed Mills with Cutters, with Crushers.  
E-R-4.

**Heinz Co., H. J.,** Pittsburgh.

Apple Butter, Pickles, etc. F-D-7 and E-D-7, F-E-7.

**Hires Co., Charles E.,** Philadelphia.

Root Beer. I-M-5.

**Large Distilling Co.,** Pittsburgh.

Whiskey. I-F-5.

**Mears & Son, C.,** Bloomsburg.

Churn. H-G-1.

**Messinger & Son, S. S., Tatamy.**

Thresher, Separator and Stacker, Corn Sheller, Feed Cutter and  
Land Roller. E-N-2.

**Moore & Sinnott, Philadelphia.**

Whiskey. I-F-5.

**Portuando, Juan F., Philadelphia.**

Cigars. I-E-9.

**Reid, A. H., Philadelphia.**

Dairy Appliances. I-J-1.

**Schleicher, Schumm & Co., Philadelphia.**

Gasoline Engine. I-e-Ex.

**Schuetz, Renziehausen & Co., Pittsburgh.**

Rye Whiskey. I-N-5.

**Smith India Pale Ale Brewing Co., Robert, Philadelphia.**

Malt Extract, Ale and Stout. G-M-8.

**Straub & Co., A. W., Philadelphia.**

Grinding Mills. E-C-6, Barn No. 6.

**United States Baking Co., Pittsburgh.**

Crackers and Biscuits. G-K-5.

**Wiedersheim, John A., Philadelphia.**

Original Letters Patent for Reaping and Mowing Machine. En-  
trance to Annex.

**Wilson, Samuel, Mechanicsville.**

Field Seeds. C-F-O.

**Wilson Brothers, Easton.**

Bone Mill and Cutter.

**Wrigley Manufacturing Co., Philadelphia.**

Scouring Soap. F-M-6.

For list of Dairy Exhibitors see ante p. 36.



## DEPARTMENT B.

### HORTICULTURE, FLORICULTURE, ETC.

(See Ante pp. 40-44).

#### Key to Installation.

The entire ground floor of the Horticultural Building proper is laid off into sections extending from east to west, and indicated by a number plainly marked on each gallery post. The floor spaces are crossed from north to south, and lettered from A to Z in regular order, each space being in the form of a square. In the center of the first floor is the dome where various exhibits of tropical plants are made. On each side of the building is a large room, known as the north and south curtains, or corridors, and adjoining these are open courts for open air exhibits. The numbers on the second or gallery floor are the same as on the first floor. The location of an exhibit will be readily found by referring to the letter and figure following it in the catalogue entry.

#### EXHIBITORS.

**Achelis, George**, West Chester.

Evergreens and Shrubs.

**Allegheny City Park**, Allegheny City.

Ferns, etc. Dome.

**Baldwin, Mrs.**, Philadelphia.

Palms. Dome.

**Burpee, W. Atlee**, Philadelphia.

Pansies.

**Chautauqua & North East Grape Growers Union**, North East.

Grapes. D-18.

**Childs, George W.**, Philadelphia.

Palms and Plants. Dome.

**Craig, Robert**, Philadelphia.

Roses.

**Dingee & Conard Company**, West Grove.

Flowers and Plants.

**Dreer, Henry A., Philadelphia.**

Seed Exhibit. G-75.

**Dreer, Henry A., Philadelphia.**

Bedding Plants, annuals.

**Drexel, A. J., Lansdowne.**

Palms, etc. Dome.

**Eisle, Christian, Philadelphia.**

Carnations, Begonias, etc. Wooded Island.

**Elliot, J. W., Pittsburgh.**

Plants, Blooming Shrubs, Plants, Sketches, etc. Lawns, Gal X-45.

**Fairmount Park, Philadelphia.**

Ferns, etc. Dome.

**Frosch, Berthold, Pittsburgh.**

Plan of Parks. Gal. U-49.

**Gardener & Company, John, Philadelphia.**

Flowers, etc.

**Girard College, Philadelphia.**

Ferns. Dome.

**Graham, Emlen & Passmore, Philadelphia.**

Lawn Mowers. H-73.

**Kaufmann, Ernest, Philadelphia.**

Florest Designs, Floral Baskets. L-49.

**Landreth & Sons, D., Philadelphia.**

Pansies. Lawn.

**Lawrence, W. H., Milton.**

Clay Fence Posts. U-74.

**Parkhurst, B. H., Elkland.**

Lawn Mower. D-73.

**Pratt, Henry B., Cowansville.**

Iron Fence and Gates. C-73.

**Rendle, A. Edgecombe, Philadelphia.**

Conservatory, Heating Apparatus. Lawn, A-47.

**Ritter, Phillip J., Conserve Company, Philadelphia.**

Fruits in glass, Jellies, Jams and Marmalades, Glazed Fruits. H-78.

**Rupp & Sons, Henry S., Shiremanstown.**

Bedding Plants.

**Stebe, Emil., Philadelphia.**

Grotto with Water Fall. X-33.

**Supplee Hardware Company, Philadelphia.**

Lawn Mowers and Grass Catchers. F-73.

**South Shore Wine Company, North East.**

White, Red and Sparkling Wines. A-3.

**Stebe, Emil., Philadelphia.**

Jardinieres, Baskets, etc. Gal. X-32.

**Wheeler, Mrs. Charles, Bryn Mawr.**

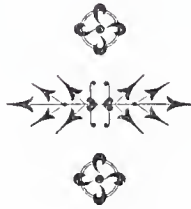
Palms, etc. Dome.

**Whilldin Pottery Company, Philadelphia.**

Flower Pots, Florists Supplies. Gal. R-3-2.

**Wotherspoon, James R., Philadelphia.**

Watering Pots and Fumigators. B-73.



## DEPARTMENT C.

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### Live Stock.

The Live Stock Buildings are situated along the lower or southern end of the Exposition Grounds.

### EXHIBITORS.

**Cooper, T. S.,** Coopersburg.

28 Head Jersey Cattle, Stock Yards.

**Hoye, E. B.,** West Chester.

French Coach Horse, Stock Yards.

**Richards, H. B.,** Easton.

16 Head of Dutch Belted Cattle, Stocks Yards.

**Smith, ———,** Philadelphia.

Cleveland Bay Horses, Stock Yards.





## DEPARTMENT D.

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### Fish, Fisheries, Fish-Products and Apparatus of Fishing.

(See ante pp. 44-45.)

#### KEY TO INSTALLATION.

The design of the Fish and Fisheries building differs widely from that of nearly all the other department buildings, the main building being circular in form and ornamented with two wings known as polygonal buildings. The ground floor of the central building is laid off into spaces for exhibits, indicated by numbers and the cross sections lettered, which by tracing the lines from the letter to the number, as for instance, A-4 will be easily found.

#### EXHIBITORS.

**Benson, A. G.,** Philadelphia.

Combined Gaff Hook and Landing Net, Rod, Ferrule Joint. Pav-6.

**McCullough, Mrs. M. S.,** Philadelphia.

Mounted Marine Algae. Gal-F-9.

**Shipley & Son, A. B.,** Philadelphia.

Rods, Reels, Flies and Tackle. Pav-E-44.

## DEPARTMENT E.

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### Mines, Mining and Metallurgy.

(See Ante pp. 46-112.)

#### KEY TO INSTALLATION.

For the purpose of indicating the location of exhibits in the Mines Building the columns extending north and south are numbered from 1 to 34, and those extending east and west are lettered from "A" to "U." By this system, each exhibit on the main floor or the gallery has a position of longitude and latitude. For example, the exhibit of Great Britain is located on the main floor at "G-16," or at that point where a line drawn from column "G" would intersect with a line drawn from column "16."

The columns are plainly lettered and numbered. The location of each exhibit is indicated by a letter and a number, and exhibits in the gallery are indicated by the letter "g" following the letter and numbers.

#### EXHIBITORS.

**American Cement Company, Philadelphia.**

Cement. S-10-G.

**American Road Machine Company, Kennett Square.**

Stone Crusher. Machinery Department.

**Bethlehem Iron Company, South Bethlehem.**

Pig Iron, Nickel Steel, Chrome Steel. Transportation Department.

**Bergner, yrus, Philadelphia.**

Fire Brick, Clay Retorts, etc. B-29-G.

**Brown, Samuel S., Pittsburgh.**

Safety Incandescent Lamp for Mines, Coal Mining Machines,

Lift for Mines and Vessels. S-8.

**Carpenter Steel Company, Reading.**

Steel Specimens. B-29-G.

**Cambria Iron and Steel Works, Philadelphia.**

Iron and Steel. R-20.

**Colliery Engineer Company, Scranton.**

Safety Lamps for Mines. T-21-G. Publications on [Mining and Metallurgy. D-32-G.

**Coplay Cement Company, Allentown.**

Cements and Methods of Manufacture. S-7-G.

**Crescent Phosphorized Metal Company, Philadelphia.**

Phosphor Tin Alloy. B-23-G.

**Crescent Steel Company, Pittsburgh.**

Open Hearth Steel, Crucible Steel, Showing Process of Manufacture. J-20.

**Diamond Mills Emery Company, Philadelphia.**

Powdered and Grained Emery. L-4.

**Elk Hill Coal and Iron Company, Scranton.**

Photograph of Steel Tower and Coal Breaker. D-32-G.

**Carborundum Company, Monongahela City.**

Crude Carborundum Wheels and Hones. T-13-G.

**Foote, A. E., Philadelphia.**

Minerals.

**Frick Coke Company, H. C., Scottdale.**

Coke and Coking Coal, Model of Coal and Coke Works. S-24-G.

**Gresley, W. S., Erie.**

Column of Coal. T-23-G.

**Ives, James T. B., Philadelphia.**

Strata and Altitude Maps. D-32-G.

**Iven's Tube Works, Elwood, Philadelphia.**

Metal Tubing of Steel. B-23-G.

**Keystone Driller Company, Beaver Falls.**

Drilling Machines for Water, Gas, Oil and Mineral Test Wells. Outside Space.

**Kirk & Son, Arthur, Pittsburgh.**

Mining Tools and Artificial Packages of Explosives. T-15.

**Lehman, George M., Philadelphia.**

Relief Map of the Island of Navassa. T-2-G.

**McCully, Robert, Philadelphia.**

Rock and Ore Crusher, Granulator and Pulverizer. R-8.

**Moreau, Eugene, Philadelphia.**

Hand Rock Drills. R-13.

**O'Neill, Andrew, Philadelphia.**

Planished Copper, Electro-Coppered Metals. B-23-G.

**Oil Well Supply Co., Pittsburgh.**

A complete exhibit of the Oil producing industries showing tools and methods used. Special Building South of Machinery Hall.

**Pittsburgh Coal Exchange, Pittsburgh.**

Miniature Steam Boat for Coal Barges. S-1-9.

**Pittsburgh Crushed Steel Co., Pittsburgh.**

Crushed Steel and Steel Emery. T-14-G.

**Pittsburgh Reduction Co., Pittsburgh.**

Aluminum.

Models showing process of production. B-28-G.

**Pittsburgh Testing Laboratory, Pittsburgh.**

Exhibit of Analytical Chemistry with specimens. R-34-G.

**Pottstown Iron Co., Pottstown.**

Steel Plates, Blooms, Nails, &c. U-14.

**Richards, James W., Bethlehem.**

Aluminum. B-28-G.

**Singer, Nimick & Co., Pittsburgh.**

Steel. T-21.

**Sterling Steel Co., Pittsburgh.**

Steel Armor Piercing Projectiles. T-14.

**Tanite Co., Stroudsburg.**

Emery, Corundum, Tripoli, Rotten Stone, &c. T-15-G.

**Taylor & Son, Robert J., Philadelphia.**

Graphite, Crucibles, Retorts Dipping Cups, Etc. S-10-G.

**Thompson, Charles T., Philadelphia.**

Models of Magnetic Iron Ore Separators. S-2-G.

**Tyler Tube Co., Washington.**

Charcoal Iron Blooms.

Charcoal Iron Tube Skelp and Boiler Tubes. T-21.

**United States Antimony Co., Philadelphia.**

Antimony Ores, showing the process of reduction to pure Antimony. C-26-G.

**Weimer Machine Works Co., Lebanon.**

Blast Furnace Plates. S-2-G

**Wood Co., Alan, Philadelphia.**

Sheet Iron and Steel. U-16.

**Wood Co., W. Dewees, Pittsburgh.**

Iron and Steel Sheets and Plates. T-14





THE MACHINERY HALL.

## DEPARTMENT F.

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### MACHINERY.

The Machinery Hall is located in the Southern portion of the Grounds, immediately South of the Terminal Railway Station. The South Canal and Agricultural Building are on the East.

### KEY TO INSTALLATION.

The exhibits in the Department of Machinery are installed in Machinery Hall proper, in the Power Station, Pump House, Machine Shop, Saw Mill Building, Boiler House Extension, Oil Pump House, and in an out-of-door space near the main building. The power plant, adjoining the main building, is divided into sections lettered from "A" to "O." The boiler house, on the south, has six numbered divisions, and the divisions of the boiler house extension are numbered from "A" to "E." The main building is divided into numbered sections. The columns are lettered from south to north, from "A" to "T," and from east to west they are numbered from 1 to 53. Hence, each column bears both a letter and a number. An exhibit located in the catalogue at "28-N-46" is in section 28, near the post or column lettered "N" on the north and south line, and 46 on the east and west line.

**Alexander Bros.,** Philadelphia, Pa.

Leather Belting and Belt Truck. 26-J-28.

**Altamus & Son, W. W.,** Philadelphia.

Textile Machinery. 28-N-45.

**American Button Hole Overseaming Sewing Machine Co.,** Philadelphia.

Sewing Machines. 32-P-47.

**Ball Engine Co.,** Erie.

Engines. Power Plant P-E-5.

**Beach, H. L.,** Montrose.

Sawing Machinery and Saw Guages. B-E-44.

**Bethlehem Iron Co.,** South Bethlehem.

Shaftings, &c., Steam Hammer and Hydraulic Forgings. Transportation Dept.

**Bilgram, Hugo,** Philadelphia.

Toothed Bevel Wheels. 15-H-27.

**Branson Machine Co.,** Philadelphia.

Knitting Machines. 30-P-50.

**Brown Folding Machine Co.,** Erie.

Folding Machine. 32-S-39.

**Brutham & Son, Geo. A.,** Philadelphia.

Speed and Power Generators and Intermediate Motor. 26-O-31.

**Butterworth & Sons Co., H. W.,** Philadelphia.

Tentering and Drying Machines. 30-P-51.

**Chambers, Cyrus Jr.,** Overbrook.

Miniature Gold Steam Engine. 34-P-36.

**Chambers Bros. & Co.,** Philadelphia.

Paper Folding Machines. 34-P-36.

**Champion Blower and Forge Co.,** Lancaster.

Blowers, Forges, &c. 27-N-34.

**Consolidated Manufacturing Co.,** Philadelphia.

Brush Machinery, Brushes, &c. 25-O-25.

**Delahunty Dyeing Machine Co.,** Philadelphia.

Machinery for Dyeing Fibres. 30-P-50.

**Dell & Son, John C.,** Philadelphia.

Coffee and Spice Mills. 31-T-50.

**Disston & Sons, Henry,** Philadelphia.

Saws and Tools. 14-F-34.

**Downie Pump Co.,** New Brighton.

Pumps and Valves. 27-L-35.

**Downingtown Manufacturing Co.,** East Downingtown.

Duplex Beating Engine. 8-B-47.

**Eick Bottle Cleansing Machine Co.,** Philadelphia.

Bottle Washing Machines. 27-L-36.

**Erie City Iron Works,** Erie.

High Speed Automatic Cut-Off Engines. Power Plant.

**Eureka Cast Steel Co.,** Chester.

Steel Castings. 26-M-30.

**Falkeneau, Arthur,** Philadelphia.

Pump Hoisting Winch, Metal Working Machines, Tablet Compressing Machines. 28-K-41.

**Farquhar Co., limited, A. B., York.**

Portable and Stationary Engines, Saw Mill Machinery. 14-F-33.

**Franklin Portable Hoist Co., Franklin.**

Crane, Hoist. 26-O-30.

**Frick Co., Waynesboro'.**

Ice Machine. 26-O-30.

**Goehring, Charles L., Allegheny City.**

Moulding and Carving Machines. 14-F-35.

**Goodell & Waters, Philadelphia.**

Woodworking Machinery. 13-G-48.

**Grier, W. W., Hulton.**

Wood Graining Machine. 12-E-53.

**Harrisburg Foundry & Machine Works, Harrisburg.**

Automatic Engines. L. S. 17-E-16 and 18-E-15.

**Harrisburg Foundry and Machine Works, Harrisburg.**

Steam Road Roller. W. Outside.

**Hickok Manufacturing Co., W. O., Harrisburg.**

Bookbinder's Machinery. 34-S-35.

**Humphrey Manufacturing Co., Towanda.**

Shoe Lining Marker. Shoe and Leather Building.

**Jarecki Manufacturing Co., Erie.**

Screw Threading Machines, Brass and Iron Work. 28-K-47.

**Jones, Lewis, Bristol.**

Knitting Machines. 30-O-52.

**Kaskey & Mattison, Ambler**

Steam Pipe and Boiler Covering, B-H-E.

**Knoll, Jonas L., Lebanon.**

Hand Power Washing Machine. 32-Q-S-45-46.

**Landis Bros., Waynesboro.**

Grinding Machines. 28-K-38.

**Leard, William E., New Brighton.**

Connecting Rods, &c. 15-F-27.

**Lippincott, Charles & Co., Philadelphia.**

Soda Water Machinery. 27-O-37.

**Lonergon & Co., J. E., Philadelphia.**

Safety Steam and Lubricating Appliances. 26-K-26.

**Lubin, Siegmund, Philadelphia.**

Machines for Making Microscopes. 32-S-47.



**Mannion & Co., J. J.,** Pittsburg.

Silk Looms. 28-O-42.

**Maris & Bukley,** Philadelphia.

Cranes, Hoists, &c. 26-O-30.

**McEwen Manufacturing Co., J. H.,** Ridgeway.

Engine. Power Plant P-D-14.

**Mellert Foundry & Machine Works,** Reading.

Fire Hydrants. 26-M-30.

**Olsen & Co., Tinius,** Philadelphia.

Testing Machines. 25-O-24.

**Otto Gas Engine Works,** Philadelphia.

Gas Engines. 15-H-31.

**Phoenix Iron Works,** Meadville.

Engines. Power Plant C-D-7.

**Priestman & Co.,** Philadelphia.

Oil Engine. 15-H-32.

**Phoenix Manufacturing Co.,** Allentown and Pottsville.

Silk Throwing and Manufacturing. 28-O-49.

**Riehle Bros.,** Philadelphia.

Testing Machines. 25-O-25.

**Sellers & Co., William,** Philadelphia.

Traveling Crane, Power Transmitting Machinery. South Nave  
13-J-38.

**Schaum & Uhlinger,** Philadelphia.

Silk Machinery. 28-O-49.

**Schleicher, Schaum & Co.,** Philadelphia.

Gas Engines. 15-H-31.

**Schutte L. & Co.,** Philadelphia.

Condensers, &c. 26-M-27.

**Soley, Geo. B.,** U. S. Mint, Philadelphia.

Cutting and Threading Tools. 26-O-31.

**Simons Bros. & Co.,** Philadelphia.

Thimbles and Process of Making. 14-I-35.

**Spiedel, J. G.,** Reading.

Derricks and Chain Hoists. Power Plant in Service.

**Star and Crescent Mills Co.,** Philadelphia.

Looms for Mixed Fabrics. 29-N-50.

**Stearns Manufacturing Co., Erie.**

Boilers, Engines. Power Plant D-D-9.

Saw Mill Machinery. Special Building S. M.

**Sternberg & Son, J. H., Reading.**

Belt Lacing Machine. 32-P-49.

**Warren, Webster & Co., Philadelphia.**

Oil Extracter. Power Plant.

**Warren, Webster & Co., Philadelphia.**

Vacuum Heating System. Service and Administration Buildings.

Vacuum Feed Water Heater. B-H-17.

**Watson, N. A., Erie.**

Boiler Feeder. B-H.

**Water Circulating and Grate, Co., Philadelphia.**

Water Circulating and Shaking Grate. B-H-E.

**Wilson, Snyder Manufacturing Co., Pittsburgh.**

Pump. B-H-5.

**Wood & Co., R. D., Philadelphia.**

Gas Apparatus, Hydraulic Machinery. 15-F-30.

## DEPARTMENT G.

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### Transportation Exhibits, Railways, Vessels, and Vehicles.

The Transportation Building is located on the western side of the Park, south of the Choral Building and Horticulture Hall, and west of the Mining Building and Lagoon.

#### KEY TO INSTALLATION.

For the purpose of the installation of exhibits the Transportation Building and Annex are divided into sections, lettered from "A" to "Z." Section "A" is the north end of the Annex; section "B" is the north end of the main building; Section "C" and "D" from the central court, and "E" the south end of the main building. The remaining sections are in the Annex, and consist of aisles running the length of the Annex. Along each aisle is a row of posts, numbered, and the sides of the aisles are indicated as "north" and "south." Thus, an exhibit located in the catalogue at "O-N-bet. 9 and 10," is on the north side of the aisle or section "O," between posts numbered 9 and 10. The sections in the main building are divided into blocks, and the two rows of columns extending the length of the building are numbered. An exhibit located at "A-8" is in section "A," block 8. An exhibit located "B-4, opp. 3," is in section "B," block 4, opposite column 3.

The entresol or gallery floor is divided into seven sections, lettered from "A" to "G." The columns are numbered. Exhibits in the gallery are indicated by the abbreviation "Gal." An exhibit located "Gal. E-42" is in gallery section E, opposite or near column 42.

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#### EXHIBITORS.

**Alexander, R. E.,** Forest City.

Railroad Tie, Car Replacer. X-N-10-11.

**Allen & Company, S. L.,** Philadelphia.

Sleds and Coasters. Gal.-B.

**Ayers & Sons, William, Philadelphia.**

Horse Blankets, Lap Dusters and Fly Nets. B-5.

**Baker, W. Edwyn, Philadelphia.**

Wheels and Hubs. Gal.-A-3.

**Baldwin Locomotive Works, Philadelphia.**

Locomotives. K-N and K-S-4-14. Aisles Q and R Outside.

**Bethlehem Iron Company, South Bethlehem.**

Steel Billets and Rail Fractures. G-3-E~~x~~-2; K-N-L-8-1, Armor, Guns, Forgings, Ingots and Torpedo. K-N-L-8-7.

**Blakeley, John & Son, Philadelphia.**

Thread Waste. M-N-6.

**Bloomsburg Car Company, Bloomsburg.**

Steel Flat Car and Rotary Dump Car. M-S-15.

**Boise Steel Wheel Company, Scranton.**

Iron Wheels and Sections of Wheels. H-N-4; I-S-4.

**Carlisle Manufacturing Company, Carlisle.**

Frog Switches, Crossings, Switch Stands and Track Appliances. W-S-8 and 9.

**Cumberland Valley Railroad Company, Chambersburg.**

Relief Map of the Cumberland Valley. D-14-16.

**Duff Manufacturing Company, Allegheny City.**

Compound Lever Jacks. Outside North of Annex.

**French Spring Company, A., Pittsburgh.**

Nut Lock and Washers, Elliptic and Spiral Springs. M-N and N-S-1-2.

**Fulton & Walker Company, Philadelphia.**

Heavy Wagons. A-3.

**Gillhaus, Neilsen & Camp, Philadelphia.**

Snow and Ice Velocipede. Gal.-A.

**Glass, Sons, William, Philadelphia.**

Single Scull Shell. Gal.-E-32 and 33.

**Grier, W. W., Hulton.**

Interior Car Finish. Gal.-A-3.

**Hale & Kilburn Manufacturing Company, Philadelphia.**

Railroad Car Seats, Seat Springs and Folding Beds. D-3-18.

**International Navigation Company, Philadelphia.**

Full Sized Section of Steamer. D-9-23.

**Jackson & Wooden, Berwick.**

Freight Car Trucks. C-1.



**Keystone Wagon Company**, Reading.

Coal Dumping Wagons. A-6.

**Kirk, Arthur**, Pittsburgh.

Navigation Lock. Department Fisheries.

**Knickerbocker Ice Company**, Philadelphia.

Ice Wagon. A-5.

**Johnson Co.**, Johnstown.

Railway Appliances. L-M-4-5.

**Lamokin Car Works**, Philadelphia.

Cars, Folding Car Gates, &c. L-N-9-10.

**Lehigh Valley Railroad Co.**, South Bethlehem.

Passenger Engine, Coach, Box and Coal Car and Section of Track.

**Link Belt Engineering Co.**, Philadelphia.

Automatic Elevators and Coal Conveyers. F-7.

**McConway & Torley Co.**, Pittsburgh.

Passenger Coach Platforms and Couplers. D-4-17-18.

**McKee, Fuller & Co.**, Catasauqua.

Steel Tired Wheels. I-R-3-4.

**Morse & Co., William**, Philadelphia.

Passenger Elevator.

**Noble Nut Lock and Washer Co.**, Pittsburgh.

Nut, Locks and Washers. M-N-1.

**Norris Box Lid Co.**, Pittsburgh.

Journal Box Lids. M-N-1.

**Odell Automatic Switch Co.**, Bradford.

Model of Switches. X-N-11.

**Pennsylvania Railroad Co.**, Altoona.

Refrigerator, Stock, Freight and Passenger Cars.

Suburban Station with Foot Bridge. Special Building South of Annex. (An extremely interesting and tasteful exhibit).

**Pittsburgh Locomotive and Car Works**, Pittsburgh.

Locomotive Tenders. I-S-N.

**Porter & Co., H. K.**, Pittsburgh.

Locomotive and Steam Motors. K-S-15-18.

**Price Railway Appliance Co.**, Philadelphia.

Metallic Ties, Rail Joints, Tie Fasteners. W-S-5-7.

**Rowland, William & Harvey**, Philadelphia.

Vehicle Springs. Gal-B.

**Schoen Manufacturing Co.,** Pittsburgh.

Railroad Ties and Special Steel Articles for Ties. G-S-6&X-N-6.

**Schoen Pressed Steel Brake Beam Co.,** Pittsburgh.

Brake Beam. X-N-6.

**Schwitler Fred.,** Allegheny City.

Milk Wagon. A-6.

**Sheldon Axle Co.,** Wilkes-Barre.

Carriage Axles. B-Gal.

**Shoulder Tie Plate Co.,** Philadelphia.

Tie Plates. W-N-9.

**Sternberger & Son, J. H.,** Reading.

Track Bolts, Rivets, &c. X-N-11.

**Stilson A. C.,** Kendal Creek.

Roller Bearings, Shaftings, &c. G-N-3.

**Stewart, W. G.,** Reading.

Coal Dumping Wagon. A-3.

**U. S. Metallic Rod Packing Co.,** Philadelphia.

Packings. O-S-3.

**Verona Tool Works,** Pittsburgh.

Steel Track Tools. G-N-4.

**Weston, Wells Manufacturing Co.,** Philadelphia.

Vehicle Fittings. Gal-B.

**Wharton & Co., William, Jr.,** Philadelphia.

Track Material. L-S-3.

**Westinghouse Air Brake Company,** Pittsburgh.

Air Brakes, Train Signaling Apparatus. C-3.

**Whitney & Sons, A.,** Philadelphia.

Car Wheel Works, Boxes and Pedestals for Steam. K-N-3-4.

**Wellmans Iron and Steel Company,** Thurlow.

Ship Plates, Bridge Plates, Steel Plates for Locomotive Boilers.  
N-N-I.

**Williams & Company, Charles K.,** Easton.

Ship Anchors. D-15-24.

**Williamson Brothers,** Philadelphia.

Steering and Hoisting Engines. D-12-24.

**Williamson, A. McIntosh,** Philadelphia.

Wheel and Section of Wheel. Gal.-B.

## DEPARTMENT H.

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### MANUFACTURES.

The exhibits in this department are located principally in the Manufacturers and Liberal Arts Building, and the references are to it, unless otherwise expressly indicated.

#### Key to Installation.

The Department of Manufactures occupies all of the ground floor of the Manufacturers and Liberal Arts Building, except Section I, in the south-east corner, which is occupied by the Department of Liberal Arts. The Manufactures Department also occupies gallery, Sections F and G. The main floor is divided into sixteen sections, lettering from A to Q, and each section is divided into four blocks, numbered from 1 to 4, except Sections A, I, H and Q, which have three blocks. The exhibits in manufactures are installed by classified groups, collectively.

For example, all the exhibits of jewelry, embraced in Group 98, are installed in Section N, Block 1.

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### EXHIBITORS.

**Aberfoyle Manufacturing Co.,** Chester.

Cotton Fabrics. O-1 Centre.

**Allens' Sons, J. J.,** Philadelphia.

Phosphorus and Associated Chemicals. Q-1.

**Angered, Mrs. Constance J.,** Philadelphia.

Jewel Box. Gal-F.

**Arrowsmith, Charlotte,** Mercer.

Silk Weaving. O-1 North.

**American Knitting Mills,** Philadelphia.

Hosiery. P-1.

**Bachman, Henry G.,** Philadelphia.

Carved Ivory Handles. Gal-F.

**Bailey & Co., John T.,** Philadelphia.

Cordage, Bags, Twines, Burlaps, &c. O-1 Centre.

- Baum & Ulman, Williamsport.  
Suspenders. Gal-G.
- Berlin Print Works, Philadelphia.  
Cotton Fabrics. O-1 Centre.
- Blabon & Co., Geo. W., Philadelphia.  
Oil Cloth and Linoleum. Gal-F.
- Binns Patent Band Co., Philadelphia.  
Trimmings and Upholstery Goods. O-1 Centre.
- Bower & Son, Henry, Philadelphia.  
Chemical Alkalies. Q-1.
- Boughton, John W., Philadelphia.  
Wood Ceilings, Floors and Fret Work. Q-1 South.
- Brown & Eberhardt, Philadelphia.  
China Bric-a-Brac, Statuary, &c. H-1.
- Brown Co., Frederick, Philadelphia.  
Ginger and Pharmaceutical preparations.
- Burk Bros., Philadelphia,  
Glazed Kid and Pebbled Goat Leather. Shoe and Leather Building. E-1.
- Burton, A. B., Philadelphia.  
Iron Posts. H-3.
- Bushnell, Alvah, Philadelphia.  
Copying Books and Office Supplies. Gal-F.
- Callery & Co., Joseph, Pittsburgh.  
Harness Leather. Shoe Leather and Building. A-3.
- Carey Bros., Philadelphia.  
Wall Paper. N-3.
- Carpenter Steel Co., Reading.  
Steel. Q-3 South.
- Conestoga Steam Mills Co., Lancaster.  
Woolen Goods. P-1.
- Cortright Metal Roofing Co., Philadelphia.  
Metal Roofing. H-3.
- Dawes & Myler, New Brighton.  
Bath Tubs.
- Degerberg & Co., P. A., Philadelphia.  
Clothing. Merchants Tailor Building.
- Devlin & Co., Thomas, Philadelphia.  
Radiators. O-3.



**Dias, James H., Irwin.**

Horseshoes.

**Dolan & Co., Thomas, Philadelphia.**

Cassimeres, Dress and Worsted Goods. P-1.

**Eddystone Manufacturing Company, Philadelphia.**

Cotton Fabrics. O-1 Centre.

**Eclipse Cement and Blacking Company, Philadelphia.**

Shoe Dressing. Shoe and Leather Building. F-4.

**England & Bryann, Philadelphia.**

Leather. Shoe and Leather Building. A-1.

**Enterprise Manufacturing Company, Philadelphia.**

Hardware. O-3.

**Erben, Search & Company, Philadelphia.**

Yarns. P-1.

**Fayerweather & Ladew, Clearfield.**

Belting and Sole Leather. Shoe and Leather Building. C-1.

**Fleisher, S. B. & B. W., Philadelphia.**

Woolen and Worsted Yarns and Braids. P-1.

**Federer, Robert H., Philadelphia.**

Glazed Kid. Shoe and Leather Building. B-2.

**Folwell, Bros. & Co., Philadelphia.**

Woolen and Worsted Good and Woolen Goods Woven on Cotton Warps. P-1.

**Galleway, William, Philadelphia.**

Ornamental Terra-Cotta. H-1.

**Gleason & Company, Philadelphia.**

Frock Suit Clothes. Merchant Tailor Building.

**Griswold Manufacturing Company, Erie.**

Hollow Ware. G-4.

**Griswold Worsted Company, Darby.**

Worsted Goods, P-1.

Spun Silk. O-1 North.

**Groetzinger & Sons, A., Allegheny City.**

Sole Leather. Shoe and Leather Building. B-1.

**Groetzinger & Co. J., Allegheny City.**

Harness Leather. Shoe and Leather Building. B-1.

**Groetzinger's Sons, G., Lancaster.**

Harness Leather. Shoe and Leather Building. A-5.

**Hagist, John, Philadelphia.**

Suits of Clothes. Merchant Tailor Building.

**Hall & Garrison**, Philadelphia.

Art Furniture, Mirrors and Picture Frames. Q-1 South.

**Hansen, E.**, Philadelphia.

Pearl Mosaics. Gal. F.

**Hayes Gold Medal File Company**, Philadelphia.

Files.

**Hetzel & Company, Geo. C.**, Chester.

Woolen and Worsted Goods. P-1.

**Hollinger, Amos**, Lancaster.

Harness Leather. Shoe and Leather Building. B-1.

**Howard & Company, J. W. & A. P.**, Corry.

Sole Leather. Shoe and Leather Building. B-1.

**Hoyt & Company, F. A.**, Philadelphia.

Childs Suits of Clothes. Merchant Tailor Building.

**Hillebrand & Wolf**, Philadelphia.

Locks.

**Hirsh & Brother**, Philadelphia.

Umbrellas and Parasols. Gal-P.

**Johns, B. B.**, Philadelphia.

—Stove Polish. O-3.

**Keystone Watch Case Company**, Philadelphia.

Gold Filled Watch Cases. O-1 South.

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### MANUFACTURERS.

**Kimes, Jesse B.**, Philadelphia.

Slate Burial Vault. H-2.

**Kneedler & Company**, Philadelphia.

Woolen and Cotton Goods. O-1 Centre.

**Knickerbocker Ice Company**, Philadelphia.

Ice Cutting Tools. A-8.

**Laird, Schober & Mitchell**, Philadelphia.

Boots and Slippers. Shoe and Leather Building. D-2.

**Leas & McVitty**, Philadelphia.

Belting, Butts and Soles. Shoe and Leather Building. B-1.

**Ledig, R. G.**, Philadelphia.

Onyx and Brass Art Furniture and Woodwork. N-2.

**Lippincott & Company, Charles**, Philadelphia.

Soda Water Appliances. H-3.

- Macbeth & Company, George A., Pittsburgh.**  
Optical and Lamp Glasses. H-1 South.
- Massachusetts Mohair Plush Company, Philadelphia.**  
Plush. Gal.-F.
- McCaffrey File Company, Philadelphia.**  
Files.
- McCambridge & Company, Philadelphia.**  
Bath Tub, etc.
- McConnell, J. J., Philadelphia.**  
Glazed Kid. Shoe and Leather Building. A-4.
- Metric Metal Company, Erie.**  
Gas and Water Metres. Q-1 North.
- Miller Lock Company, Philadelphia.**  
Locks.
- Minnis, Sallie, Philadelphia.**  
Dinner Cloth. Gal.-F.
- Muhr's Sons, H., Philadelphia.**  
Jewelry and Filled Gold Watch Cases. O-1 South.
- Muncy Woolen Mills Company, Muncy.**  
Woolen Goods, Blankets, Robes, Rugs, etc. P-1.
- Mundell & Company, John, Philadelphia.**  
Shoes. Shoe and Leather Building D-2.
- National Typewriter Company, Philadelphia.**  
Typewriting Machines. Gal.-F.
- Oblinger, Benjamin F., Philadelphia.**  
Boots and Slippers. Shoe and Leather Building. E-2.
- Orinoka Mills, Philadelphia.**  
Upholstery Goods. Gal.-F.
- Pennsylvania Salt Manufacturing Company, Philadelphia.**  
Alkalies and Alkaline Salts. Q-1.
- Philadelphia Typewriter Company, Philadelphia.**  
Typewriting Machines.
- Potter, Sons & Company, Thomas, Philadelphia.**  
Oil Cloth and Linoleum. Gal.-F.
- Powers & Weightman, Philadelphia.**  
Chemicals. Q-1.
- Read, William F., Philadelphia.**  
Dress and Worsted Goods and Umbrella Cloth.
- Reading Stove Works, Reading.**  
Stoves. O-4.

- Reith, William**, Philadelphia.  
Art Stained Glass. Gal-F.
- Remmey, Richard C.**, Philadelphia.  
Chemical Stoneware. Q-1.
- Richardson & DeLong Bros.**, Philadelphia.  
Hooks and Eyes. Gal-F.
- Rinald Bros.**, Philadelphia.  
Paints and Miniature Windmill. H-I. South.
- Rose & Bros, William**, Sharon Hill.  
Mechanics' Tools.
- Rosengarten & Sons**, Philadelphia.  
Chemicals. Q-1.
- Ross, William B.**, Cambridgeborough.  
Games. Gal-F.
- Scarinci, Benjamino**, Philadelphia.  
Leather and Calf Skin. Shoe and Leather Building F-1.
- Scott Paper Company**, Philadelphia.  
Toilet Paper. Gal-F.
- Standard Manufacturing Company**, Pittsburgh.  
Bath Tubs and Plumbers Iron Ware.
- Star and Crescent Mills Company**, Philadelphia  
Turkish Towels, &c. O-1 Centre.
- Sankey, John**, Mifflinburgh.  
Shoe Dressing. Shoe and Leather Building. F-6.
- Stanton Knitting Mills Company**, Philadelphia.  
Knit Goods. P-1.
- Sternberg & Son, J. H.**, Reading.  
Bolts and Nuts.
- Stetson Company, John B.**, Philadelphia.  
Hats. Gal-G.
- Stevens, Marshall G.**, Philadelphia.  
Insoles for Boots and Shoes. Shoe and Leather Building. F-5.
- Stevenson Company, Thomas Roberts**, Philadelphia.  
Stoves. O-3.
- Strawbridge & Clothier**, Philadelphia.  
Ladies Dresses, Costumes and Wraps. Gal-G.
- Thomson, J. S.**, Erie.  
Refrigerators. P-4.
- Wahl, Fancy Bone Manufacturing Company, Emil**, Philadelphia.  
Bone Goods. Gal-F.



**Wahnetah Silk Company, Catasauqua.**

Silk Plushes. O-1 North.

**Way Manufacturing Company, Philadelphia.**

Knit Goods. P-1.

**Weber & Company, F., Philadelphia.**

Artists Colors, &c. G-2 North.

**Werner, Itschner & Company, Philadelphia.**

Dress Goods and Silk Ribbons. O-1

**Wilkes-Barre Lace Manufacturing Company, Wilkes-Barre.**

Cotton Lace Curtains. O-1 Centre.

**Wire Buckle Suspender Company, Williamsport.**

Suspenders and Garters. Gal-G.

**Wirt, Paul E., Bloomsburg.**

Fountain Pens. Gal-F.

**Wire Glass Company, Philadelphia.**

H-1 South.

**Woll & Sons, P., Philadelphia.**

Curled Hair, Feathers and Fibre.

**Wood & Company, William, Philadelphia.**

Woolen Goods, Cotton and Woolen Mixed Goods.

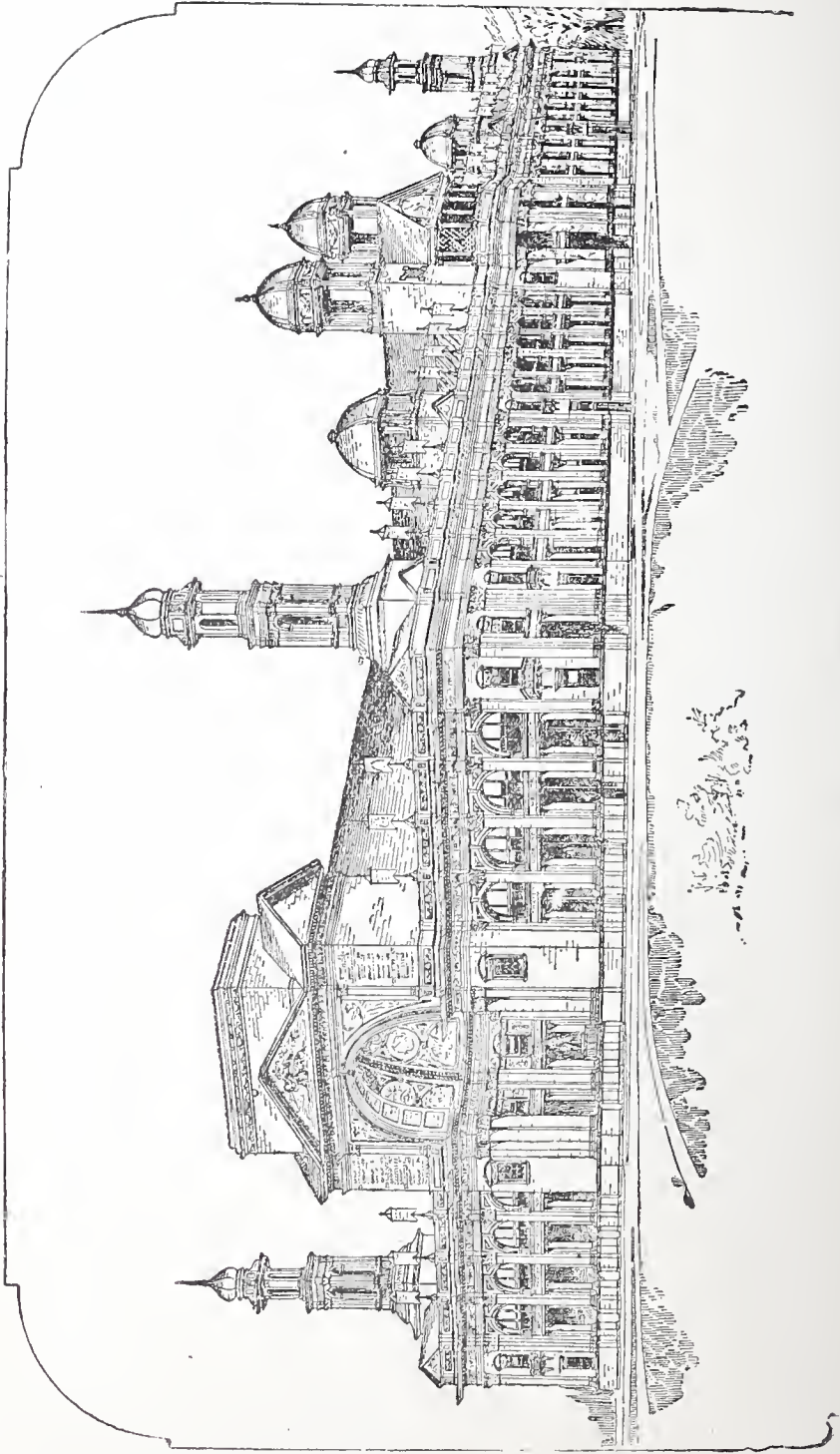


# DEPARTMENT J.

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ELECTRICITY AND ELECTRICAL APPLIANCES.





THE ELECTRICAL BUILDING

## DEPARTMENT J.

### ELECTRICITY AND ELECTRICAL APPLIANCES.

The Electricity Building is situated on the south side of the Lagoon, between the Manufactures and Liberal Arts, and the Mining Buildings.

### KEY TO INSTALLATION.

For the purpose of the installation of exhibits, the Electricity Building is divided into sections, lettered from "A" to "Z." On the main floor the sections are numbered from "A" to "Q," and on the gallery floor from "R" to "Z." The sections are divided into exhibit spans, which are numbered. The location of exhibits are indicated in the catalogue by a letter and a number. For example, "V-5" means that the exhibit is in Section "V," which is in the gallery, and exhibit space 5.

### EXHIBITORS.

**Consolidated Electric Storage Co.,** Philadelphia.

Motors. R-2.

**Cutter Electric and Manufacturing Co.,** Philadelphia.

Electric Switches. Z-1.

**Diamond Emery Mills Co.,** Philadelphia.

Emery. L-4a.

**Eureka Tempered Copper Co.,** North East.

Tempered and Hardened Copper. U-14.

**Marcus, William N.,** Philadelphia.

Telephone Attachments. S-6a.

**Paiste H. T.,** Philadelphia.

Switches, Metres and Cut-outs, &c. S-22

**Phoenix Glass Co.,** Pittsburgh.

Electrolier Globes and Shades. I-1.

**Queen & Co.,** Philadelphia.

Electrical Machines. E-7.

**Heisler Electric Co.,** Philadelphia.

Transformers. O-4.



**Queen, J. W., Philadelphia.**

Batteries. E-7.

**Standard Underground Cable Co., Pittsburgh.**

Static Arresters. L-5.

**Westinghouse Electric Manufacturing Co., Pittsburgh.**

Induction Coils and Converters. Dept. F., Machinery Building,  
Power Plant,

**Wharton, Jr. & Co., William, Philadelphia.**

Street Railway Truck and Rails. H-2.

**White Dental Manufacturing Co., S. S., Philadelphia.**

Batteries. U-27.

## DEPARTMENT L.

### Liberal Arts.

(See Ante pp. 127-143.)

### KEY TO INSTALLATION.

The exhibits in the Liberal Arts department occupy all of the gallery space, except sections F and G, which are devoted to exhibits in the department of Manufactures. The Liberal Arts department also occupies Section I, in the south-east corner, on the main floor, where all musical instruments are installed. The sections in the gallery are lettered from A to K, for the purpose of locating exhibits. The gallery columns are numbered north and south, or lengthwise of the building from 1 to 108, and the cross columns from east to west are lettered from A to Z. The letter and number following an exhibit in the catalogue indicate the intersecting point of the column lines nearest the exhibit. The location sign "Gal. A. F-19" means that the exhibit is in Section A at the point where Column F and Column 19 meet.

### EXHIBITORS.

**Albert, Eugene J.,** Philadelphia.

Violins, &c. Sec-1-P-4.

**Albert, C. F.,** Philadelphia.

Violins, &c. Sec-1-P-4.

**Albert, John,** Philadelphia.

Bass Violins. Sec-1-P-4.

**Alexander & Co., Dr. H. M.,** Marietta.

Vaccine Virus. E-W-4.

**Alteneder & Sons, Theo.,** Philadelphia.

Drawing Instruments. Gal-E-M-103.

**Ball-Ball Co.,** Philadelphia.

Drawing Instruments. Gal-E-N-103.

**Baptist Orphanage, Angora,** Philadelphia.

Photographs of Buildings and Grounds. F-W-10.

**Barrie, George,** Philadelphia.

Books, Engravings. Gal-E-G.

**Beneficent Building Association, Philadelphia.**

Plans of Houses. E-Wing Frames-V-4.

**Boericke & Tafel, Philadelphia.**

Homeopathic Preparations. Gal-D-F-98.

**Brashear, John A., Allegheny City.**

Telescopes, &amp;c. Gal-E-N.

**Brown Frederick Co., Philadelphia.**

Pharmaceutical Preparations. Gal-D-F-98.

**Carroll Aluminum Manufacturing Co., Meadville.**

Aluminum Dental Surgical Instruments. Gal-E-F-102.

**Children's Aid Society, Philadelphia.**

Photographs, &amp;c. F-W-9.

**Colby Piano Co., Erie.**

Pianos. I-X-8.

**Columbian Art Engraving and Publishing Co., Philadelphia.**

Engravings. Gal-E-L-106.

**Cummings Filter Co., Philadelphia.**

Water Filters. E-T-4.

**Catholic Schools Exhibits.****Christian Bros. College, Philadelphia. Section I.****Christian Brothers Parish School, Philadelphia. Section I.****Christian Brothers Industrial Training School, Eddington. Section I.****Philadelphia Diocese High and Parish Schools, Philadelphia.**

Fifty-five Schools. Section I.

**Parish Schools at—**

Ashland, Bally, Bristol, Bryn Mawr, Chester (2), Conshohocken (2), Doylestown, Kelleyville, Leighton, Mauch Chunk, Norristown, Phoenixville, Port Carbon, Pottsville (2), Reading, St. Clair, Shenandoah, West Chester. Section I.

**Pittsburgh Diocese, Pittsburgh.**

Colleges of Pittsburgh, Lorretto and Summit, Academies of Pittsburgh (2), Allegheny, Beatty P. O., Ebensburg, Greensburg and Lorretto. Section I.

**Parish Schools of Pittsburgh.**

Twenty-two Schools Pittsburgh, Allegheny, Altoona, Blairsdale, Braddock, Butler (2), Cambria City, Copeland, Chartier, Connellsville, Dunbar, Gallitzin, Homestead, Irwin, Johnstown (3), Latrobe, McKeesport, Millvale, Sharpsburg (2), Scottdale, Tunnel Hill, Turtle Creek, Tyrone, Wilksburg. Section I.

**Sisters of Notre Dame Schools,** Philadelphia.

Parish School. Section 1.

**Sisters of St. Joseph's Academy,** Philadelphia. Section 1.

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**Bryn Mawr College,** Bryn Mawr.

Photographs, &c. Gal.-K-G-7.

**Davis, M. L.,** Lancaster.

Models of Garbage and Crematory Furnaces, and Quarantine Hospital. E-S-3.

**Davis & Co., F. A.,** Philadelphia.

Medical Books, Charts, &c. Gal.-E-E-103.

**Deaf Schools' Collective Exhibit.**

Edgewood Park.

Scranton.

**Pennsylvania Institution for the Deaf and Dumb,** Philadelphia.

Gal.-A-A-7.

**Doriot, Constant,** Philadelphia.

Dental Tools, Chairs, &c. Gal.-E-K-101.

**Drexel Institute of Arts, Science and Industry,** Philadelphia.

Photographs. Gal.-K-I-6.

**Eclipse Filter Co.,** Philadelphia.

Water Filters. E-T-4.

**Edgecombe & Co., A Rendle,** Philadelphia.

Glass Roofing. Gal.-E-V-108.

**Electro-Tint Engraving Co.,** Philadelphia,

Half Tone Engravings. Gal.-K-E-P-103.

**Feeble-Minded School's Collective Exhibit.**

Elwyn. Gal.-A-A-7.

**Green Francis V. and Mary A.,** Philadelphia.

Reversible Windows. Gal.-E-R-109.

**Gutekunst Co., Frederick,** Philadelphia.

Photographic Portraits. Gal.-E-N-108.

**Hahnemann Medical College and Hospital,** Philadelphia.

Medical Specimens, &c. Gal.-I-Z-6.

**Hess Postal Facility & Supply Co.,** Philadelphia.

Postal Boxes. Gal.-E-T-108.

**Home for Friendless Children,** Reading.

Photograph of Building. F-W-10.

**Hoover Joseph,** Philadelphia.

Lithographic Fac-Similies. Gal.-E-K-105.



**Indian Industrial School, Carlisle.**

Work, Photographs, &c. Gal.-I-Z-7.

**International Surgical Instrument Co., Philadelphia.**

Surgical Instruments. Gal.

**Jewish Hospital Association, Philadelphia.**

Photographs and Statistics. F-W-9.

**Jefferson Medical College, Philadelphia.**

Plans and Designs—Anthropological Building. F-X.

**Keystone Blue Paper Co., Philadelphia.**

Photographing Drawing Papers. Gal.-E-S-103.

**Keystone Dry Plate and Film Works, Philadelphia.**

Photographs and Dry Plates. Gal.-E-R-103.

**Landis, A. L., Lancaster, Pa.**

Metallic Curbing. Gal-E-U-108.

**Lawrence Organ Manufacturing Company, Easton.**

Organs. I-T-6.

**Lee Company, J. Elwood, Conshohocken.**

Surgical Special Instruments. Gal-E-H-103.

**Lehr & Company, H., Easton.**

Reed Organs. I-T-6.

**Ley, Max, Philadelphia.**

Engraved Photographic Screens. Gal-E-M-107.

**Levytype Company, Philadelphia.**

Engravings, &c. Gal-E-K-104.

**Lippincott & Company, J. B., Philadelphia.**

Books. Gal-E-E-108.

**Long, Mrs. J. G., Chester.**

Amateur Photographs. Gal-F-U-103.

**McMillan Sash Balance Company, Pittsburgh.**

Sash Balance and Lock. Gal-E-Q-109.

**Meggy, Jessie Hodgeman, Philadelphia.**

Bed Lift. F-X-15.

**Meller & Rittenhouse Company, Philadelphia.**

Licorice and its Products. Gal-D-F-99.

**Meyer & Sons, C., Philadelphia.**

Pianos. I-T-7.

**Miller Charles H., Pittsburgh.**

Appliances for Cleansing Water Mains. E-S-4.

**Nichols, Minerva Parker, Philadelphia.**

Architectural Designs. Gal-F-U-103.

**Ogontz School, Ogontz.**

Photographs. Gal-K-I-6.

**Palmer, B. Frank, Philadelphia.**

Artificial Limbs. Gal-D-D-102.

**Penfield Company, E. C., Philadelphia.**

Surgical Appliances, &c. Gal-D-D-101.

**Pennsylvania Normal Schools,**

Bloomsburg. Indiana. Kutztown. Slippery Rock. West Chester.  
Gal-K-E-6.

**Pennsylvania Museum and School of Industrial Art, Philadelphia.**

Examples of Students Work. Gal-A-F-11.

**Pennsylvania State College, State College.**

History, Maps and Work. Gal-K-F-8.

**Philadelphia School of Design for Women, Philadelphia.**

Student's Work. Gal-A-Truss-F-11.

**Pennsylvania State Board of Health, Philadelphia.**

Charts and Apparatus and Publications. Section-E. Anthropo-  
logical Building.

**Pennsylvania Academy of fine Art, Philadelphia.**

Students Work. Gal-A-F-11.

**Philadelphia County Auxiliary Committee, Philadelphia.**

Model Workingman's Home. Midway Plaisance No. 3.

**Pepper, James W., Philadelphia.**

Band Instruments. I-P-1.

**Queen & Company, Philadelphia.**

Optical Goods and Instruments. Gal-E-N-101.

**Rau, William H., Philadelphia.**

Photographs and Lantern Slides. Gal E-O-108.

**Schomacker Piano Co., Philadelphia.**

Pianos. 1-N-6.

**Spring Garden Institute, Philadelphia.**

Drawings and Students Work. Gal A-F-11.

**Shaw Piano Co., Erie.**

Pianos. 1-F-7.

**Standard Manufacturing Co., East Stroudsburg.**

Cash Registers. Gal E-S-102.

**Stewart, S. S., Philadelphia.**

Banjos. 1-S-4.

**St. Luke's Hospital, South Bethlehem.**

Photographs, &c. Anthropological Building F-X-12.

**Tadd, J. Liberty**, Philadelphia.

Industrial Art. I-U-1.

**Teye, W. H. R.**, Philadelphia.

Mandolins and Guitars. I-T-3.

**University of Pennsylvania**, Philadelphia.

Maps, Publications, &c. Gal K-H-8.

**Warner, William R. & Co.**, Philadelphia.

Pharmaceutical Preparations. Gal D-D-101.

**Western University of Pennsylvania**, Allegheny City.

Photographs and Publications. Gal K-H-8.

**White Dental Manufacturing Co., S. S.**, Philadelphia.

Dental Supplies and Machinery. Gal E-K-101.

**Willis & Clements**, Philadelphia.

Platinotype Photographs. Gal E-O-108.

**Woodbridge, Mrs. L. D.**, Chester.

Amateur Photographs. Gal F-U-103.

**Woman's Medical College of Penna.**, Philadelphia.

Photographs, &c. Gal I-Z-8.

**Wyeth & Bros., John**, Philadelphia.

Pharmaceutical and Medicinal Preparations. Gal D-D-94.

**Young & Sons**, Philadelphia.

Surveying, Engineering and mining instruments. Gal E-P-101.

**Zeilin & Co., J. H.**, Philadelphia.

Pharmaceutical Preparations. Gal D-E-98.

**Zentmayer, Joseph**, Philadelphia.

Microscopes. Gal E-P-101.

## DEPARTMENT M.

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### **Ethnology, Archaeology, Progress of Labor and Invention, Isolated and Collective Exhibits.**

The exhibits in this department are located in the Anthropological Building, which adjoins the Forestry Building on the west.

#### **EXHIBITORS.**

**Beeker, Frank**, Philadelphia.

Historical Section.

**Colkel, C. Howard**, Philadelphia.

Ethnological Section.

**Culin, Mrs. Stewart**, Philadelphia.

Ethnological Section.

**Dercum, F. H.**, Philadelphia.

Archæological Section.

**Dana, Charles E.**, Philadelphia.

Ethnological Section.

**Eastern State Penitentiary**, Philadelphia.

Model of Buildings, &c. F-T-14.

**Gueirero, Mrs. E. A. P.**, Philadelphia.

Ethnological Section.

**Farquhar, A. B.**, York.

Historical Section.

**Kerlin, Isaac N.**, Elwyn Institute, Elwyn.

Archæological Section.

**Lea Bros. & Co.**, Philadelphia.

Archæological Section.

**Numismatic and Antiquarian Society**, of Philadelphia.

Ethnological Section.

**Pennsylvania Reform School**, Morganza.

Photographs, Statistics &c. F-W-12.

**Pennsylvania Soldiers' and Sailors' Home**, Erie.

Picture of the Buildings. F-W-9.

**Pennsylvania Industrial Home for Blind Women**, Philadelphia.

Photographs. F-W-9.



**Pennsylvania Industrial Reformatory, Huntingdon.**

Model of Buildings. F-S-13.

**Presbyterian Orphanage, Philadelphia.**

Photographs. F-W-11.

**Spriestersbach, William, Pittsburgh.**

Historical Section.

**University of Pennsylvania, Philadelphia.**

Ethnological Section. A number of exhibits.

**Western House of Employment, Philadelphia.**

Photographs. F-T-10.

**Western Penitentiary, Allegheny City.**

Models of Buildings. F-S-14.

**Widows' Home, Reading.**

Photographs. F-W-9.

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## DEPARTMENT N.

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### FORESTRY AND FOREST PRODUCTS.

(See Ante pp 145-152).

#### EXHIBITORS.

**Armstrong Bros. & Co., Pittsburgh.**

Cork. (Location southwest section of building, near main aisle).

## APPENDIX.

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Inventory of Furniture, Carpets, Curtains, Draperies, Etc., contained in the Pennsylvania State Building, taken May 15, 1893.

### Corridors, First and Second Floors.

#### Porches (Lower) 25 Electroliers.

2 Porters' Benches, Corduroy.	1 Table.
2 Carpets.	4 Brass Cuspidors.
2 Settees.	2 Settees on Landing.
1 Case of Relics.	5 Settees, Wood Seats.
2 Register Desks.	6 Brass Cuspidors.
	31 Electroliers.

#### Grand Reception Room: Birch, Mahogany Finish-Corduroy Covering.

2 Mantel Pieces, complete, Ivory Finish.	3 Rockers.
5 Electroliers.	3 Arm Chairs.
1 Round Bourne, Ivory Finish Top.	1 Carpet.
4 Sofas.	2 Pairs Portieres.
3 Arm Chairs.	3 Pairs Curtains.
3 Reception Chairs.	1 Piano.
	8 Brass Cuspidors.

#### Gentlemen's Parlor: Pollard Oak-Velour Coverings.

1 Carpet.	2 Sofas.
5 Pairs Curtains.	4 Arm Chairs.
1 Mantel Piece, Quartered Oak.	3 Reception Chairs.
2 Pairs Portiers.	3 Arm Chairs.
1 Table.	5 Rockers.
3 Electroliers.	1 Piano—Loaned.
	4 Brass Cuspidors.

**Smoking Room: Antique Oak.**

- |                          |                     |
|--------------------------|---------------------|
| 1 Peerless Brick Mantel. | 5 Reed Chairs.      |
| 1 Sofa, Leather.         | 6 Reed Rockers.     |
| 2 Electroliers.          | 12 Brass Cuspidors. |
| 1 Carpet.                | 3 Pairs Curtains.   |
| 1 Table.                 | 2 Pairs Portieres.  |

**Ladies' Parlor: Bird's Eye Maple.**

- |                   |                 |
|-------------------|-----------------|
| 1 Carpet.         | 1 Table.        |
| 3 Electroliers.   | 6 Chairs.       |
| 1 Mantel.         | 5 Porch Chairs. |
| 5 Pair Curtains.  | 2 Sofas.        |
| 2 Pair Portieres. | 3 Arm Chairs.   |
| 1 Shaw Piano.     | 5 Mural Panels. |

**Ladies' Private Parlor: Bird's Eye Maple.**

- |                        |                  |
|------------------------|------------------|
| 1 Carpet.              | 1 Sofa.          |
| 2 Electroliers.        | 7 Chairs.        |
| 1 Mantel, Cabinet Top. | 2 Pair Portiers. |
| 1 China Cabinet.       | 3 Wicker Chairs. |

**Ladies' Toilet Room: Antique Oak.**

- |                 |           |
|-----------------|-----------|
| 6 Electroliers. | 1 Mirror. |
|-----------------|-----------|

**Gentlemen's Toilet Room.**

- |           |                 |
|-----------|-----------------|
| 6 Mirror. | 6 Electroliers. |
|-----------|-----------------|

**Post Office:**

- |                           |                       |
|---------------------------|-----------------------|
| 2 Electroliers.           | Post Office Fixtures. |
| 2 Double Cane Arm Chairs. |                       |

**Bureau of Information:**

- |                 |
|-----------------|
| 1. Electrolier. |
|-----------------|

**Check Rooms:**

- |                 |
|-----------------|
| 4 Electroliers. |
|-----------------|

**SECOND FLOOR.****Governor's Room: Birch Mahogany Finish, Leather Coverings.**

- |                  |                        |
|------------------|------------------------|
| 1 Mantel.        | 5 Arm Chairs, Rockers. |
| 1 Round Table.   | 3 Rockers.             |
| 1 Flat Top Desk. | 2 Brass Cuspidors.     |
| 1 Rotary Chair.  | 1 Carpet.              |
| 1 Sofa.          | 5 Pair Curtains.       |
| 4 Arm Chairs.    | 4 Electroliers.        |

**Executive Commissioner's Room: Antique Oak.**

- 1 Electroliers and 2 Side Brackets.
- 1 Mantels, Red Oak.
- 1 Curtain Desk.
- 1 Rotary Chair, Sole Leather.
- 1 Typewriter Desk.
- 1 Rotary Chair.

- 1 Table, Cloth Top.
- 1 Wardrobe with Mirror.
- 6 Arm Chairs, Cane.
- 1 Carpet.
- 3 Window Curtains.
- 1 Letter File Case.
- 1 Letter Press.

**Executive Commissioner's Private Room: Antique Oak.**

- 1 Electrolier.
- 1 Desk.
- 1 Chair, Sole Leather.
- 1 Lounge, Leather.
- 4 Arm Chairs, Cane.

- 3 Cuspidors.
- 1 Carpet.
- 1 Window Curtain and drapey.
- 1 Wardrobe.

**Treasurer's Room: Antique Oak.**

- 2 Electroliers.
- 1 Table, Cloth Top.
- 6 Arm Chairs.
- 1 Wardrobe, no Mirror.

- 3 Brass Cuspidors.
- 1 Carpet.
- 2 Window curtains.

**Committee Room: Antique Oak.**

- 2 Electroliers.
- 1 Table, no Drawers.
- 1 Charter to William Penn.
- 24 Arm Chairs, Cane.
- 1 Inlaid Desk.

- 1 Wardrobe, no Mirror.
- 1 Carpet.
- 6 Brass Cuspidors.
- 2 Window Curtains.

**Toilet Rooms: Antique Oak.**

- 2 Plain Mirrors.
- 1 Side Electric Light Bracket Each Room.

**Newspaper Files Room: Antique Oak.**

- 5 Wall Bracket Lights.
- 12 Bracket Lights on Newspaper Files.
- 2 Mantels, Chestnut.
- 3 Round Tables.
- 2 Clothes Racks.
- 1 Wardrobe.
- 3 Settees, Sole Leather.
- 4 Double Files Racks.

- 160 Filling Sticks for Racks.
- 7 Chairs, Leather.
- 7 Chairs, Wood.
- 1 Carpet.
- 4 Curtains.
- 1 Relief Map of Pennsylvania.
- 1 Dictionary and Stand.



**Newspaper Correspondents' Room : Antique Oak.**

4 Electroliers.	1 Table.
1 Mantel, Chestnut.	1 Table.
2 Clothes Racks.	17 Chairs, Leather.
1 Wardrobe, no Mirrors.	17 Chairs, Wood.
2 Square Writing Tables, no Drawers.	12 Brass Cuspidors.
2 Tables.	5 Curtains.
1 Table, no Drawers.	1 Carpet.
	1 Relief Map, Gettysburg.

**Porticos : White Maple.**

100 Rockers.	50 Brass Cuspidors.
200 Arm Chairs.	100 Double Cane Arm Chairs.
50 Ladies' Rockers.	











